

University News

MONDAY, MARCH 28, 1988

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Higher Education in India —The Shifting Perspectives



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- (4) Academic Record (to be certified) giving year of passing, division and percentage of marks obtained, award/distinctions, if any, for all public examinations,
- (5) Research experience,
- (6) Research Guiding Experience (only for Item No. I & II),
- (7) Publications,
- (8) Present occupation and salary drawn,
- (9) A brief scheme of research proposed to be undertaken if appointed.

N.B. : 1. The choice of the Selection Committee may not be confined to those who formally apply. Prescribed qualifications and age limit may be waived in case of candidates found otherwise outstanding.

2. In-Service candidates should apply through proper channel.

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Editor : ...

Higher Education in India

The Shifting Perspectives—II

K. K. Balachander*

III

Development Since Independence

Planning Higher Education for Economic Growth

The dominant feature of post-Independence development of higher education has been the enormous growth in student numbers and institutions. Enrolment made rapid strides, particularly in the sixties. This was also the time when economic thought was bringing into focus the investment aspect of education. Many less developed countries which got Independence from colonial rule believed—or were led to believe—that it is the qualitative improvement in human resources that determined the character and pace of economic development, and the principal instrument for it is the formal education system. Much of the economic progress of advanced countries that were among the backward and poorest only a few decades ago, it was pointed out, was the outcome of the development of their human resources through education, particularly higher education. Also, the speedy and spectacular recovery of Japan and Western Europe from the debris of World War II—against the expectation of some economists who overestimated the need for physical capital for recovery—and reaching the most favourable growth rates in the post-war period, was ascribed to their technical and skilled manpower which they had built up over the years. The largest fraction of the rate of growth of the American economy and the USSR economy was attributed to growth of knowledge and skill which facilitated increased efficiency of physical capital. In contrast to the above countries, it was argued, many less-developed countries could not generate higher output, in spite of massive financial investment made by them in physical assets, because they did not realise that a sufficient stock of educated workers and personnel was a necessary condition for economic growth; hence a convergence between education, particularly higher education, and economic growth must be even more important in poorer countries to raise the productivity of labour than in the advanced ones.

*Secretary-Technical Coordinator, Department of
Economics, University of ... v ... v

And so the economists discovered (or rediscovered, because the classical economists never overlooked the point) the importance of complementary human factors, of investment in human resources. There has been a large body of literature on the economic aspects of education since the beginning of sixties, and the new concepts and methods developed became subject-matters of wide discussion. In India too, similar studies were conducted. 'Economics of Education' thus began to affirm itself as a new domain of economic analysis. Economists ceased to wield axes, and instead became standard-bearers of educational advance. And the education profession, as Dore put it, "just stood by and let them do it." In fact they were happy to have economists on the side of education—there were good precedents for this, notably Adam Smith and J.S. Mill—and popularise the economic value of education (although some among them felt that material affluence was not the stuff of which 'good life' was made; non-material values which, even though hard to measure, were no less important than the GNP). In short, educationists began to think in terms of economics, when economists began to think in terms of economics, when economists began to pay special attention to education. Education came to be discussed in the language and terminology of economists (which was again rather disquieting to some since the concept of investment is closely linked with the idea of expenditure in the expectation of monetary gain, or profit, and not to the intrinsic value of education). It was even talked of as an 'industry', and attempts were made to apply to it the tools of analysis of the industry. Many of those who once got upset by the idea that it should be treated like an industry, appeared to get more upset if people could not see that it was the most important industry !

The then policy-makers in India naturally welcomed the support provided by their new-found allies—economists and educationists. There came into being a wider agreement among them that educational decisions should take into account the economic value of education. The goal of nationwide benefits of an educated populace seemed to justify public expenditure on an increasing scale for the expansion of education, particularly higher education. The First Five Year Plan, launched in 1951, had stated: "No Plan would succeed unless it invested in the improvement of human material, and even from the point of increasing production, social services like education and technical training brought significant results". The subsequent Plans also had emphasised that education is the focal point of development. The following opening sentence of the Report of the Indian Education Commission

(1964-66) summed up the assumptions of most writers on education and development in the early sixties thus : "The destiny of India is now being shaped in her classrooms. This, we believe, is no rhetoric.....it is education that determines the level of prosperity, welfare and security of the people". Alfred Marshall's observation that 'Education is a national investment' appeared to have lost none of its value. This meant acceptance of educational planning as an essential part of economic planning. Thus education, particularly higher education, got caught up in a society on the move as never before.

Another reason which motivated the Government of India to expand higher education at a rapid pace was its desire to transform the 'elite' character of the system inherited from the British Government and make it more representative of Indian society by drawing within its fold the broad sections of the lower income groups and socially under-privileged sections. This was a pre-Independence promise. The enrolment in higher education was thought to be inadequate considering India's youth population. Besides, as the notion that education, particularly higher education, is the key to productive life (and national prosperity) came to be accepted, discrimination among students had to break down, for who can be denied the chance to become useful and productive ?

Once the aspirations of the people were kindled, the movement of the higher educational sector was, only in one direction—upwards. It became a need among larger and larger sections of the population. More and more institutions had to be opened, and the existing ones expanded. The Governments, at Central and State levels, moved to funnel larger funds into the higher education sector.

The Currents of Change

Higher education at one time was a means of acquiring wisdom and satisfying curiosity; it was not an instrument for achieving economic goals—in fact, there was no urgent need then to put scholarship to any practical use. The attachment to the past was predominant. Before the age when specialisation was forced on the society, a classical education was considered a virtue. Higher educational institutions, established with the above end in view, were maintained through the dedication of some individuals. However, the new demand of 'economic life' was such that even the modern higher education adopted during the British period needed complete remodelling—both in its

'extent' and 'content'. Colleges and universities were no longer considered as citadels of *status quo*; these institutions, it was felt, should be liberally irrigated by the currents of change. This implied important structural reforms and the creation of new types of institutions for training in new subjects that were of practical significance in terms of future careers. The Government had to take steps towards diversification/specialisation of higher education in order to widen and upgrade the country's talent pools. The pre-Independence system had adhered mostly to a uniform type of general education meant for a small and privileged fraction of the relevant age group. Professional/Technical Education had earlier been played down though in Britain, Central Europe, etc., the significance of this type of higher education had long been recognized and acted upon. Provision had therefore to be made for more professional and technical education. Out of the total number of students getting university education, only about 20 per cent were receiving professional education in 1947-48.

In the above process, a line has been drawn between higher education pursued for its own sake and learning applied to economic ends. The conception of knowledge as a thing desirable on its own account still linger among a few people, but they are in a minority. It is doubtful if higher education would have proved as attractive as it turned out to be later if pure pursuit of knowledge had been the sole criterion and not the advantages that it provided to building subsequent careers. When the desire for material prosperity, which had remained subterranean so far, was aroused, and with the realisation that it could be achieved through higher education, demand for higher education increased at a rapid pace. An increase in the college/university age group population and the status attached to a university degree also have led to further pressure.

Quantity Without Direction

India now operates a higher education system much larger than many developed and developing countries. She had 0.9 per cent of the relevant age group (17-23) participating in higher education in 1950-51, 1.8 per cent in 1960-61, 4 per cent in 1970-71 and about 4.5 per cent in 1980-81. Many other countries, both developed and developing, have more than 10 per cent of pupils in that age group enrolled. Admittedly, the proportion of the relevant age group in higher education in India is one of the lowest in the world. However, compared to many developed and developing countries, India has a larger number

of students enrolled in higher educational institutions, and this exceeds or is almost equal to the individual population of some countries. In 1947, India had only 19 universities and 650 colleges having a student intake of about 2.5 lakhs; now it has 150 universities and about 5500 colleges with an enrolment of nearly 4 million. About 2.5 lakhs of teachers are employed at present in universities and colleges. In 1950-51, the total expenditure on higher education was a mere Rs. 20 crores, it was estimated to be over Rs. 600 crores in 1983-84—thirty-fold increase—a large part of which being covered by Government funds.

The twin objective of making available sufficient middle and upper level trained manpower to the economy in its programme of economic development and at the same time meeting the rising expectations of the vast sections of the young people who had long been denied higher educational opportunities, has introduced some important new dimensions to the policy of development of higher education in the country. In other words, the Government is keen to pursue the three goals of quantity, quality and equality simultaneously, and that too in a situation of financial scarcity. Fulfilling all these three perhaps not-easily-compatible-objectives is a difficult task. The more the quantity the less it favours quality and vice versa: the less the resources, more difficult it becomes to equalise higher educational opportunities. The Indian scene exhibits some special characteristics which may not be exclusive, but nowhere else are they so sharp and glaring in proportions as here. There still exists some confusion on the right to receive higher education. A question that is often posed is; should it be equality of opportunity for all, irrespective of merit, in the sense that higher education is a right, or should it be equality of opportunity for some in the sense that it shall be available to all on the basis of merit, i.e. equality of accessibility, with adequate safeguards for non-discrimination on grounds of income/social origin?

The development of higher education since 1950

TO OUR READERS

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

cannot be considered to be a success story, qualitatively. If quantitative expansion is an indicator, the post-Independence period can be considered to be highly impressive. As the rate of growth of enrolment has been nearly 10 per cent over the period 1950-1983 (and that of colleges/universities 6 per cent per annum) one can easily imagine the population explosion inside our campuses today. India appears to be the one country where every teenager coming from upper and middle class families can gain entry into some college. The system could grow faster mainly because of the Government's readiness to help such a growth, in spite of scarce resources. The planning authorities and policy-makers probably had assumed in the fifties that with the economy developing naturally, there would be a growing demand for educated and skilled personnel. However, what is now being witnessed is that the expansion of higher education has not been accompanied by parallel economic development and promotion of the labour market, thus creating the increasingly serious problem of educated unemployment. The vast reservoir of human resources that is being built up, remains unutilized, underutilized and misutilized. The backlog of unemployment of educated personnel has become so large that those who have completed higher education courses have to wait for years before finding a job. The Government had made special efforts for expansion of Professional/Technical categories of higher education, as this was considered responsible for the spectacular progress of Europe, America, Soviet, Russia and other advanced countries. Yet unemployment has increased among these categories too towards the mid sixties. When it is found difficult to secure jobs in the branches of their specialisation, many professionally/technically qualified persons are either seeking white-collar jobs, or (the highly qualified among them) look for employment opportunities abroad. Considering the fact that the expenditure in these fields is much more than that in general fields, as well as the fact that a heavy public subsidy is involved in training, not using the skills acquired by students, or not deploying them properly, means a major drain on government revenues. As Dr. V.K.R.V. Rao rightly put it, the subsidy does not serve any purpose if there is not going to be jobs available for students in their chosen career, profession.

Degrees and Jobs : The Superficial Link

The persistent tendency of the supply of the more educated to rise in a market of restricted employment has further led to the phenomenon of 'upgrading' of

educational requirements for particular occupations. The requirements of a degree is all pervasive both in the public sector (which is the major source of employment for a high proportion of university graduates in India) as well as in the private sector, even for jobs which require only matriculation or higher secondary school-level qualifications. As Panchamukhi states, when a large number of degree-holders compete for a limited number of places, there is likely to be a 'substitution effect' i.e. the replacement of the less-educated from their jobs by the more educated. A similar phenomenon is being witnessed now in the country. Those who are having just school education with no degree are relegated further down and made worse off (and the young people with the lowest educational attainment come disproportionately from the less-advantaged strata of society). The better educated are found willing to adjust their sights downwards, and take up jobs for which they are overeducated. The employers use degrees as a 'screening' device for job recruitment. With too many claimants for a job, university degree offered an easy method of selection. Or, in other words, one's degree is held to be more important than what the degree-holder can do. Higher level education qualifications have thus got formalised for jobs, and job aspirants seek some extra years of college education in order to qualify for these jobs. With fewer jobs available, naturally the tendency is to continue improving educational qualifications for having a competitive advantage.

The net result is a 'devaluation' of higher education, which stems from the very expansion of higher education and proliferation of degrees/diplomas. Upgrading of educational requirements for various types of jobs has been one of the striking characteristics of the Indian labour market. Thus, a 'qualification syndrome' has set in, which reinforces the natural tendency of education at any level to be a preparation for the next. As Dore put it, "the more widely education certificates are used for occupational selection, the faster the rate of qualification inflation". And the colleges/universities continue to churn out more and more young men with devalued degrees.

Thus "the broadening of the access of higher educational services to all, irrespective of ability or merit, has meant putting more on the race track, reducing the values of those that got ahead. The better have become worse off as more and more of the worse joined them" (R. Bharadwaj). When the higher education system itself got enlarged to serve a large number of students (who are themselves diversified in every respect) and academic standards were relaxed, quality

suffered. The Kothari Commission (1964-66) had admitted this woeful fact in its Report. It had stated that the first degrees in Arts, Science and Commerce in Indian universities cannot be compared to the first degrees in the universities of the developed world; in terms of international comparability, our postgraduate degrees could perhaps be equated with the first degrees in those countries. Since Independence, the quality of higher education has gone even lower than the one set during the British period. Deteriorating quality is further aggravated by inadequate financial resources devoted to qualitative programmes. The students, it is evident, do not mind this since they have no feeling of foot-ing the bill, the pick up for almost free whatever is made available to them. Perhaps it is not so much the thirst for higher learning that is the driving force among the students; the aim is to get better jobs which ensure later a middle-class standard of life. This is further encouraged by (a) the social factor of joint family which help the students to hang on to the student status for a longer time; (b) the heavy subsidy (low fee rates) extended to all students; and (c) the negligible, foregone earnings.

Because of historical reasons, higher education in India has been linked with getting jobs as opposed to

self-earnings or earnings from self-employment. This has encouraged a psychology among the youth that a job is the only way to earn a living either in the country or abroad. And the main function of the higher education system therefore appears to be providing the students with a 'credential' with which they can gain entry into the modern, urban, industrial sector and outcompete one another for a job.

The process of expansion at a rapid pace is proving to be self-defeating. *A policy of providing large masses of young people a higher education which necessarily and inevitably awakens ambitions which cannot be fully satisfied, and tastes which cannot be gratified, and thus increase their discontent, is likely to impair rather than foster productivity.* Despite the impressive quantitative expansion and the claim that India has the third largest scientific and technical manpower in the world, after only the U.S.A. and the U.S.S.R., why is it that she is at the lowest bottom in terms of productivity? The country, instead of advancing, has in fact regressed in relation to the rest of the world in nearly all important sectors, and has fallen behind even some of the so-called Third World countries. The phenomenon of diminishing returns appears to have gripped the higher education sector.

[To be Continued]

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Application form and other details can be had from this office on requisition accompanied by a Crossed Indian Postal Order for Rs 10/- (Rupees Ten only) dated not earlier than 21.3.88 in favour of the Registrar, Anna University, Madras-25 together with a stamped self addressed envelope (Rs. 2/- of size 22 cm x 10 cm). Requisition for application form and other details will be entertained upto 29.4.88.

Last date for receipt of completed application form is 6.5.88.

REGISTRAR

Accreditation and Assessment of Institutions of Higher Learning

Programme of Action (POA) of the National Policy of Education (NPE) 1986 inter alia recommended that :

"Excellence of institutions of higher education is a function of many aspects : Self-evaluation and self-improvement are important among them. If a mechanism is set up which will encourage self-assessment in institutions and also assessment and accreditation by a Council of which these institutions are corporate members, the quality of process, participation, achievements, etc. will be constantly monitored and improved.

It is proposed to develop a mechanism for accreditation and assessment for maintaining and raising the quality of institutions of higher education. As a part of its responsibility for the maintenance and promotion of standards of education, the UGC will, to begin with, take the initiative to establish Accreditation and Assessment Council as autonomous body."

In pursuance of this directive, the University Grants Commission (UGC) constituted a Committee under the Chairmanship of Dr. Vasant Gowariker, Secretary, Ministry of Science and Technology "to make recommendations regarding setting up of Accreditation and Assessment Council in order to develop a mechanism for maintenance and raising of quality of institutions of higher education, while keeping in view the objectives, uses and various methods/procedures that are currently being followed by different countries or that can be adopted."

The Report of the Committee is being published for wider readership.

I. Introduction

In brief, what is wrong with Indian universities is that they are not generative. They do not give rise to a vital and self-supporting intellectual life. Though it is true that they do not have realistic funding, their achievement is still not proportionate to the time, effort and intellectual resources expended on them. Perhaps the major cause of their failure is the manner of their governance, which does violence to the operations of mind and the growth of knowledge. Academic institutions must be built around the principle of intellectual autonomy. Most of ours are not.

Historical roots of the mediocrity of Indian higher education can be traced to the exigencies of British rule, in the need to contain the dangerous potential of self-rule in the realm of ideas. The present structures are descended practically unaltered from that time. The governance of universities is part of a larger pattern, the command-and-control style of bureaucracy, which was established in the interests of British supremacy and which still continues to dominate our public life.

II. Management of Higher Education

Command-and-control management entails a hierarchical notion of "accountability" and top-down initiative. Goals and values are formulated from the outside, and the various ways in which their implementation can go wrong are taken into account and sanctions are provided against these. The governing attitude is suspicion. Dignity and authority are vested largely in the supervisory levels, most of all in the remote government bureaucracy, and next to none with working academics. Intellectual and pedagogical initiative are stifled, and experimentation, innovation and the finding of appropriate responses to local circumstances become impossible. The goals of universities get pitched at a very modest level, to achievements peripheral to the real purpose of a university such as the regular holding of examinations and the announcement of results. The management of universities gets reduced to a law-and-order problem, with a limited and crude repertoire of political-bureaucratic actions to bring them to a semblance of control.

The situation of colleges is particularly bad, because of their subordination to affiliating universities. This suffocates the initiative of college faculty and denies them the necessary control over the circumstances of their work. On the other hand, factors like the recent raising of the college entrance age with the addition of two years of secondary education and the raising of lecturer qualification to the doctoral level have made the issue of academic autonomy at the college level both more urgent and more promising.

There is an alternative style of management to the command-and-control hierarchical bureaucratic method. It is a style which has been demonstrating its superiority world wide, not just in the academic realm but in business and government as well. It means putting people first. In the words of one of the leaders of the Japanese ascendancy "To motivate people, you must bring them into the family and treat them like repeated members of it." A system which does this is decentralized, democratic and facilitative.

In the academic sphere the first postulate of the new system is the authority and dignity of the working academic. Once this is conceded, the organizational patterns that are coherent with it follow naturally. These include collegiality in the life of the department and of the institution and the derivation of administrative authority from departmental and faculty councils.

Though it is widely conceded that nothing worth while can be accomplished without academic autonomy, the tendency is to let the fear of potential abuse lead back to the bureaucratic hierarchical system.

III Accreditation

As a way to assure the effectiveness of academic institutions while maximally supporting academic self regulation, the Programme of Action of the National Policy on Education 1986 has called for the setting up of an autonomous Council on Accreditation and Assessment. The accreditation policy forms part of a reform which must be viewed as a whole and whose other important aspects include the provision for autonomy of colleges and the projected National Testing Service.

While the central motive to the accreditation system has come from the requirements of college autonomy, it also answers the need for a systematic and regular means for assuring that colleges and universities are functioning effectively.

The hierarchical-bureaucratic approach to possible academic abuses is like administering a dope test while the race is still on. The system of institutional accreditation, on the other hand, is based on first giving an institution the maximum freedom in defining its goals and the means to achieve them, and then examining it closely, as a whole. The crucial difference from the bureaucratic system with its cumbrousness and enforced uniformity is made possible by reliance on the faculty of judgment, in particular the judgment of responsible educators who know what academic excellence is through their own participation in it. They are able to evaluate the institution as a whole and to assess its parts in terms of their functional relation to this, and they are not constrained to see those parts only in terms of adherence to some preconceived bureaucratic prescription.

Operationalisation of an effective system of accreditation in the country will gradually lead to the establishment of norms and criteria for institutional performance assessment and methodologies and tools for systematic institutional self study and self evaluation. Moreover, institutions themselves will collectively benefit through integration of this element of assessment into the institutional culture.

IV Important Features of an Accreditation System

Institutional accreditation originated in the United States and has existed there in close to the present form for some decades and is also to be found in Canada and Japan among others. The division of authority and responsibility between central government and states in the field of higher education is similar in North America and India. Some of the main features of an operational institutional accreditation system which commend themselves are the following:

(1) Institutional accreditation, the recognition of the performance and integrity of an educational institution, is granted by an association of institutions of higher education. Accreditation means membership in the association, and the accrediting commission of the association is elected by the institutional members.

Accreditation, which is the assurance by a non-governmental body of the quality of an educational institution, must be distinguished from the granting by the (state or federal) government of a charter or licence to an institution, legally enabling it to award degrees. An institution must have a charter before it can be accredited.

(2) Institutional accreditation is a means for the self-regulation of the academic profession, with minimal political and bureaucratic interference.

(3) Institutional accreditation does not imply that accredited institutions have a similarity of goals or uniformity of process or that they are comparable. It permits diversity and innovation.

(4) The first part of the accreditation process is a self-study by the institution, involving in this activity all of its major constituents including faculty, students and administration. Included in this process is the sharp defining by the institution of its primary mission or goals. This must be soundly conceived; it must be realistic as well as appropriate to the collegiate level.

(5) The second part of the accreditation process is an onsite evaluation by a team of professional educators (faculty and administrators). Though they have the help of published association policies, their main reliance is upon their own experienced judgement. Institutional evaluation is ultimately subjective.

(6) Institutional accreditation indicates that, in the judgement of responsible members of the academic community, an institution's own goals are soundly conceived and appropriate, that its educational programmes have been intelligently planned and are competently conducted, and that the institution is accomplishing the majority of its goals substantially and has the resources to continue to do so for the foreseeable future.

(7) Institutional accreditation is a matter of "yes" or "no" to the institution as a whole. It embraces all educational endeavours conducted by a single institution regardless of its complexity. Institutional accreditation must be distinguished from specialized or professional accreditation; where the latter applies, institutional accreditation is usually a prior necessity. Institutional accreditation must also be distinguished from the nationwide comparative assessments of departments in a particular discipline. This is usually carried out by a professional association in that discipline.

(8) In order to be accredited an institution must meet the Association's qualitative criteria for the assessment of institutional effectiveness in each of the principle areas of institutional activity and responsibility, as follows :

- a. Institutional Mission and Objectives
- b. Evaluation and Planning

- c. Organization and Governance
- d. Programmes and Instruction
- e. Special Activities
- f. Faculty
- g. Student Services
- h. Library and Learning Resources
- i. Physical Facilities
- j. Financial Resources
- k. Ethical Practices
- l. Publications and Advertising

(9) The accreditation agency is not simply a body for the assurance of educational quality. The process of accreditation encourages institutional improvement through continual self-study and evaluation. Accreditation agencies develop criteria and guidelines for assessing institutional effectiveness. And the expert criticism and suggestions of the evaluating team are invaluable.

(10) Developing or newly applying institutions can, prior to accreditation, be awarded candidate status on satisfying certain criteria. These Requirements of Candidature concern institutional characteristics largely capable of objective verification. Candidature is usually granted for a two-year term. If progress is being made, candidacy can be extended for up to six years.

(11) Accreditation must be periodically reaffirmed, within a period of five years after initial accreditation, and within ten years thereafter. Accrediting bodies reserve the right to review member institutions any time for cause. They also reserve the right to review any substantive change in the institution; such changes are reviewed within two years after the changes become effective. An accredited institution which shows serious weakness in one or more areas, but which also shows firm potential for remedying the deficiencies, may be put on probation. Accreditation continues, but generally for a sharply reduced term.

(12) The accrediting associations are institutional-membership organizations supported by annual dues, from the candidate and accredited institutions. They elect the accreditation commissions, the bodies which make the final decision on accreditation after receiving the institution's self-study report and the report of the evaluation team.

Expenses for accrediting activities are borne by the institution on a cost basis. This is kept low by the extensive use of volunteers on evaluation visits.

A typical Commission consists of sixteen members who are elected at the Annual Meeting for staggered three-year terms. Provision is made for different types of institutions and the general public to be represented on the Commission. Commissioners serve without compensation, and those who are institutional representatives are currently active on the faculties or staffs of institutions accredited through the Commission. The Commission normally meets four times a year, but various committees may meet more frequently. The day-to-day activities of the Commission are conducted by a Director of Evaluation, professional staff, and support staff.

(13) Though accreditation agencies are non-governmental their accreditation has come to be recognized as a necessary qualification for eligibility to receive federal funds. The federal government in turn recognizes, for a four-year duration, those accrediting agencies which it finds to be a reliable indicator of educational quality.

(14) Despite the diversity of accredited institutions, there are some substantive curricular requirements that they must all meet, most notably a coherent and substantial programme of liberal or general studies, amounting to no less than a quarter of all course-work in a four-year undergraduate programme. This requirement is also extended to post-baccalaureate degrees, in the sense that undergraduate work with a sufficient general education component must at least be a prerequisite to those post-baccalaureate programmes.

V. Steps Toward an Accreditation System in India

(1) These above features of an operational accreditation system will serve as benchmarks in establishing a system of institutional accreditation in the Indian context as a means of reorganising the assurance of educational quality, of making expert academic consultation widely available, and as a way of mobilising local initiative and energy through self-definition and continual self-appraisal.

(2) The initial impetus for an accreditation system will come from the UGC, through its selection of a group of about twenty good autonomous institutions for initial candidature.

Until such time as twenty institutions are accredited, there will be a provisional Accreditation Association made up of candidate institutions, the original twenty plus those that are later admitted into candi-

dature. After twenty institutions are accredited they will constitute the core of the Accreditation Association or Accreditation Council and candidate institutions will thereafter have observer status. The Association will be an autonomous, self-governing body—to begin with, a registered society. It will meet once a year.

Each institution's representative to the Annual Meeting of the Association will be appointed by the administrative head of the institution, the vice-chancellor or the principal. At the Annual Meeting the representatives will elect Commissioners the members of the Accreditation Commission, the body which will make the final decision on accreditation. The Commission will comprise fifteen members, serving three-year terms. Eventually, the appointments will be staggered, with about one-third of the positions being vacated each year. Commissioners will be drawn from institutions of different types as well as from outside the academic world. From among these the Association representatives will at their first meeting elect a Chairman of the Commission and an Associate Chairman for one-year terms. Subsequently, the Associate Chairman will succeed the Chairman, and a new Associate Chairman will be elected annually. The Commission will meet about four times a year.

The Accreditation Commission will, with the consent of the University Grants Commission, initially and then whenever necessary appoint a Director of Evaluation, who will conduct the day-to-day activities of the Commission with the help of a secretariat of professional and support staff. The Director's term will normally be five years, but can be terminated earlier for valid reasons by the Accreditation Commission. His status, method of appointment and terms and conditions of service will be comparable with those of a Vice-Chancellor of a University.

The Commission will also, with the consent of the University Grants Commission, appoint an Associate Director of Evaluation, who will report to the Director. He will normally succeed the Director,

The Director will supervise the codification of the principles, guidelines, methods and observations of the accreditation agency into a Handbook, and will submit these to the Commission for its approval.

The Director will draw up a list of potential evaluators, with critical biographies, for the approval of the Commission. The accreditation agency will keep on file a list of at least a hundred approved evaluators. They will serve in an honorary capacity. The other

terms of their association with the Commission, will be determined by the Commission.

The ultimate decision on accreditation will be made by the Commission after seeing the self-appraisal and evaluation reports and related material.

The Accreditation association will eventually be encouraged to function on a zonal basis, for reasons of tractability and economy.

(3) The following are some of the major points on which an institution will face scrutiny in the process of accreditation, and which it will address in its self-appraisal :

(a) Institutional Mission and Objectives

These should be practical, appropriate to the university/collegiate level, and socially responsible.

(b) Evaluation and Planning

There should be sharply defined institutional goals and effective mechanisms for periodic, systematic self-evaluation, planning and review of objectives. The process should take into account state and central plans.

(c) Organisation and Governance

There should be published a clear statement based on the acts and statutes defining the respective powers, functions, responsibilities of each organisational component (Senate, Executive Council, Academic Council, governing board, administrative officers, faculty, departments, students and other constituencies) and their inter-relationships. Provisions for the distribution of authority and responsibility should be depicted in an organisational chart that represents the actual working of the institution. The faculty must have a major role in shaping and conducting academic policy. There should be provision for the consideration of student views in matters of direct and reasonable interest to them. The public interest should be adequately represented in the determination of the overall policies of the institutions.

(d) Programmes and Instruction

Every undergraduate programme whether professional, specialised or general ought to show an appropriate regard for the humanities, natural scienc-

es and social sciences. Usually, at least a quarter of each student's programme should consist of courses in these areas, but experimentation with other ways of meeting the end of well-roundedness should be encouraged. Courses should adhere to clearly defined institutional standards of scholarship. There ought to be appropriate means for monitoring the effectiveness of the educational programmes. (The development of some of these, such as a National Testing Service, will be the job of educational bodies and authorities outside the institution). There should be some systematic procedures that tend to assure that assessments are fairly awarded while at the same time preserving the integrity of the educational process. There should be some means of assuring that the number of sessions planned for a course are actually held, and that the students and teachers are fulfilling their responsibilities in respect of the course.

(e) Faculty

The qualifications and numbers of the faculty should be adequate to discharge their academic responsibilities. Their recruitment, promotion, retention and security of tenure and other conditions of service, particularly the teacher's academic autonomy, in determining the content of the course, the teaching method and the method of evaluation, should be at a level consonant with the dignity of the academic profession. There ought to be formal or informal forums for open communication amongst the faculty and between faculty and administrative officers.

(f) Student Services

There should be an orderly and ethical admissions procedure, and compliance in spirit as well as law with special provisions for disadvantaged groups. Academic, personal and career counselling services, grievance-redressal services, health services and services for foreign students and the handicapped should be available. There should be clear published statements on student rights and responsibilities. Current information about graduates and their progress in careers should be maintained, and the interest of alumni in the development of the institution encouraged.

(g) Library and Learning Resources

Books and non-print materials and library services, study space and staff should be adequate

to the educational programme and there should be systematic planning for future needs.

(h) **Physical Facilities**

Buildings, grounds and equipment should be adequate to meet the needs of the institution. They should be well-maintained and aesthetically pleasing. Classrooms and laboratories ought to be properly equipped and adequate in number and size.

(i) **Financial Resources**

The institution should be financially stable, with sufficient resources to carry out its objectives into the foreseeable future. It should have control of its financial resources and budgetary procedures, and be free from undue influence or pressure from external funding sources. There should be a clearly defined and consistently implemented process by which the budget is established and resources are allocated. There should be a yearly external audit, reviewed by the appropriate individuals or groups in the institution.

(j) **Ethical Practices**

In all its dealings the institution should show concern for basic values and observe the spirit as well as the letter of legal requirements.

(k) **Publications and Advertising**

The institution should publish a catalogue or handbook describing clearly and accurately its objectives, its admission policies, each academic programme or course of study, the requirements for a degree or other recognition, the members of the faculty with their academic qualifications, the fees and charges, the refund policy, the learning and physical resources, and other information the institution considers significant.

(4) The Accreditation Agency should be a self-financing institution. Its recurring expenditure should be met entirely from the membership fees paid by member institutions. The fees paid by the institutions should be accepted as an admissible item of expenditure for purposes of grants-in-aid to them. The initial expenditure on setting up the Accreditation Council should be met by the UGC for a period of three years.

(5) Within five years of the setting up of the Accre-

ditation Council, only accredited institutions will be eligible for Central funding. Some painful decisions will have to be made, but if there is to be any point to an accreditation system, it must be operated with great integrity, and therefore there must be no exceptions.

State governments will be free, as before, to found, charter or recognise, and to fund, new institutions, but those institutions will not receive any Central funds until they become accredited. Funding, development or support of as yet unaccredited state institutions will be entirely the concern of the states.

For the founding of a new Central institution, separate funds will be allocated to sustain it until it wins accreditation, and planning for the new institution will be undertaken with the Requirements of Candidature in mind. If a central institution fails to win accreditation even after a reasonable period of time and investment of funds the Accreditation Council will recommend its closure.

6 The implications of non accreditation and loss of accreditation, including the consequences for faculty and past and present students, must be spelled out in advance and publicised.

Denial or loss of accreditation must not come as a surprise. Consultancy services recognised by the Association should be also be available to provide an early warning of deficiencies and advice in dealing with them.

7 The right to academic self determination of the individual academic, the department and the college or university is fundamental. The *prima facie* satisfaction of it (as evidenced, for example, by the rules and composition of the statutory bodies of the institution) will be a Requirement of Candidature.

8 Autonomy is not a prize for the deserving. It is a precondition for any worthwhile work. So it cannot be made a consequent to accreditation or even to candidature, but must precede them.

The accreditation system is designed, above all, to make college (and university) autonomy possible by shifting to a mode of accountability that is horizontally rather than vertically organised, and which therefore does not stifle local initiative.

The current UGC guidelines on autonomy envision two degrees of autonomy for colleges. The first,

more properly designated "semi-autonomy", is under the aegis of the erstwhile affiliating university, which, along with other external agencies, has its representation on all the college's statutory bodies. Semiautonomy does not go far enough in enabling teachers to determine their work situation, alienating them from their jobs. And it makes the statutory bodies cumbersome and open to manipulation by persons without a legitimate stake in them. Semi-autonomy, then, though it is a great improvement over affiliation should be seen as a stop-gap arrangement.

After the accreditation system is in place, colleges should be in a position to avail of the second, more complete degree of autonomy, under conferment of "deemed university" status from the UGC, a possibility envisioned by the UGC guidelines and also by the National Policy on Education, 1986.

As for affiliated colleges proper, as distinct from semi-autonomous ones, none of them can be granted candidature by the accreditation system because their set-up is by its nature too violative of individual and departmental academic autonomy. Since accreditation involves a "yes" or "no" to the institution as a whole, no matter how complex it is, affiliating universities will themselves not be eligible for candidature until they have divested themselves of these colleges at least to the extent of semi-autonomy.

Since, within five years of the setting up of the Accreditation Council, only accredited institutions will be eligible for Central funds, the goal of autonomy (or semi-autonomy) is envisioned for all colleges by then.

The UGC has decided to grant autonomous status to 500 colleges by the end of the current five-year plan (1990). Special funds will have to be made available by the UGC during the intervening period to facilitate the transition of the remaining colleges, so that they may all have a fair chance to qualify for accreditation before the deadline.

Some of the conditions for the granting of autonomous status by the UGC will be similar to the conditions for the granting of candidature by the Accreditation Council. Nevertheless, these conferments by two distinct bodies should be kept distinct.

(9) There are a variety of causes which will keep an institution from accreditation, and the appropriate response of the concerned authority will vary accordingly. In most cases what is called for will be a

matter of reorganisation and some additional finances, but not very substantial expansion of faculty and facilities. But some present institutions are simply too small to be able to offer a satisfactory educational programme particularly in light of the claims of general education. In such cases, consolidation with other institutions would be called for.

(10) An emphasis on general education will be a primary concern of the accreditation system and will be enforced as a Requirement of Candidature. There is no other way to realize a large number of the curricular goals enunciated in the National Policy on Education, 1986. Every college must make the student aware of the range of human knowledge; it must increase the student's capacity for the organisation and expression of thought; it should provide an opportunity for the development of basic learning skills and foundations necessary for success in mastering advanced specialised subject matter; it should develop within students the capabilities of forming independent judgments, weighing values, and understanding fundamental theory and it should encourage the pursuit of lifelong learning.

The value of elective courses, within the field of specialisation but more especially outside of it, should be emphasized, as this is the primary foundation of interdisciplinary study, which the new education policy is committed to. It will also give new life to some of the fields of study that few would like to specialize in but many would like to study, which are presently wasting away.

The mode of implementing general education whether through distribution requirements, foundation courses or some other modality, will be left up to the institution.

The system of credits and internal evaluation (not necessarily examination based), modularity of courses of study, and admission to the college as a whole rather than to a department, will be included in the Requirements of Candidature.

VI. Linkages

(1) The Association of accredited institutions of higher education can exert a positive influence on the standards of secondary education, through recognition of the certificates of various boards. They can also recognise independent schools, and help them to establish an accrediting Association of Secondary Schools with strong linkages to the higher education Association.

(2) Professional institutions in fields such as engineering, medicine, architecture, management and law should be brought under the scope of institutional accreditation through the aegis of the proposed National Apex Body for Higher Education. Institutional accreditation should be made a prerequisite to professional accreditation.

(3) In assessing the educational effectiveness of an institution, evaluators will want to have some concrete measure of educational outcomes. For this the development of the National Testing Services, providing objective and up-to-date certification in a wide variety of subjects, will be extremely helpful.

VII. Financial Implications

The financial (and political) implications of bringing most of the nation's institutions of higher education upto the level necessary for accreditation must be squarely faced. Even though the implementation of accreditation is in itself bound to improve the cost-benefit ratio, effective education cannot possibly come so cheaply as what is now prevalent.

VIII. Recommendations

This report should be widely circulated in the academic community for a full scale discussion on the idea of an Accreditation & Assessment Council.

Seminars on Accreditation and Assessment Council

While considering the Gowariker Committee Report on Accreditation and Assessment Council, the University Grants Commission (UGC) at its meeting on 21st January, 1988 accepted the recommendations of the Committee that "this report should be widely circulated in the academic community for a full scale discussion on the idea of an Accreditation and Assessment Council." As a follow up action, the UGC proposes to hold four regional seminars and a national seminar to discuss the Report as per details below:

Region	State Union Territories*	Venue & Date of the Seminar (Tentative)
North	Punjab (3) Himachal Pradesh (3) Jammu & Kashmir (2) Delhi (5) Haryana (2) Rajasthan (5) Western Uttar Pradesh (14)	University of Jammu, Jammu 21st April, 1988
West	Gujarat (7) Madhya Pradesh (10) Maharashtra (9)	Gujarat University, Ahmedabad 28th April, 1988
South	Andhra Pradesh (12) Karnataka (6) Kerala (4) Tamil Nadu (9)	Bangalore University, Bangalore 4th April, 1988
East	Assam (2), Bihar (8) Manipur, Meghalaya & Orissa (6) West Bengal (9) Arunachal (1) Eastern Uttar Pradesh (4)	Jadavpur University, Calcutta 11th April, 1988
National Seminar	Censors of Regional Seminars, Representatives from Ministry of Human Resource Development, Eminent Educationists & others.	To be announced

*Figures given in brackets indicate the number of Universities in a State excluding Agriculture Universities.

IMPLEMENTATION & MONITORING OF NATIONAL POLICY ON EDUCATION

(HIGHER & TECHNICAL)

Objectives

The National Policy on Education (NEP) and its Programme of Action clearly identified certain parameters of Technical and Higher Education which need to be strengthened and a major share of responsibilities for its implementation rests with universities and other educational institutions. The Department of Education, MHRD, the UGC and several individual universities have taken up implementation of these programmes in their own ways. In the recently concluded National Conference on "Role of Universities in Implementation of New Education Policy" held at Osmania University on Dec. 18-19, 1987 as a part of Association of Indian Universities' Annual Meeting, several Vice-Chancellors, educationists and experts deliberated on several identified issues namely :

1. Human Resource Development,
2. Consolidation and Expansion of Institutions.
3. Academic Staff Colleges,
4. Distance Teaching/Learning.
5. Youth Services; Sports and Physical Fitness Programmes.
6. Teachers Training,
7. Restructuring of Courses,
8. Research and Extension,
9. Education in Human Values.
10. Autonomous Colleges and Depts
11. Evaluation and Accreditation of Institutions,
12. State Councils for Higher Education, and
13. Rural Universities,

and after detailed discussions have come out with recommendations for future action. Also, several universities have sent a status report on their own implementation in the following areas :

- A. Consolidation and expansion of institutions
- B. Autonomous colleges and/or autonomous departments;
- C. Restructuring of courses;
- D. Teachers Training and Recruitment;
- E. Strengthening of Research;
- F. Improvement in Efficiency;
- G. Mobility of Teachers and Students,

- H. Making the system work;
- I. Research and Development;
- J. Education for women, SC & ST, Backward minorities and handicapped;
- K. Evaluation Process and Examination Reforms;
- L. Youth & Sports;
- M. Language, Development and Cultural Perspective; and
- N. Media and Educational Technology.

In the backdrop of the above, the Association of Indian Universities in collaboration with the UGC and a local host university in every region, proposes to hold four of these 3-day National Seminars on :

- (i) monitoring and evaluating the status of implementation in the four area groups,
- (ii) drawing up further plan of action for the remaining period of 7th plan,
- (iii) devising and developing methodologies for monitoring and formats for assessing the progress of implementation, and
- (iv) considering possible alternative strategies of implementation particularly with reference to problems faced.

Seminar I

Venue & Host University

New Delhi, Indian Institute of Technology

Topics for Discussion

1, 2, 3, 4 & 5

Dates

April 14—16, 1988

Seminar II

Proposed Venue & Host University

Imphal, Manipur University

Proposed Dates

May 19—21, 1988

Topics for Discussion

F G H & M

Seminar III

**Proposed Venue & Host University
University of Poona**

Proposed Dates

June 27—29, 1988

Topics for Discussion

6, 7, 8 & J

Seminar IV

**Proposed Venue & Host University
Bangalore, Bangalore University**

Proposed Dates

July 25—27, 1988

Topics for Discussion

9, 10, 11, 12

Participation. The participation to the Seminar can be either in the form of presentation of a paper or through discussions. A university can sponsor two delegates to one of these Seminars, Dean or Professor involved with actual implementation of the programmes

besides the Vice-Chancellor representing the University. The participants thus sponsored will be paid TA/DA from the Association of Indian Universities and the boarding/lodging will be provided free of cost.

Receipt of Papers. The papers (type-written and in duplicate) should reach the Convenor latest by the dates mentioned :

SEMINAR I	April 1, 1988
SEMINAR II	May 1, 1988
SEMINAR III	June 1, 1988
SEMINAR IV	July 1, 1988

Seminars Chairman

Prof. S.K. Agrawala

Secretary, AIU

Seminars Convener

Dr. V. Natarajan

Director (Research)

Association of Indian Universities

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Madurai Kamaraj University

Notification No. 8/R/88

Applications in EIGHT COPIES on plain paper are invited for the following posts with full particulars in the PROFORMA given below and copies of testimonials and such other additional information as the applicants may wish to give.

1. Director, Academic Staff College
2. Director, Institute of Correspondence Course and Continuing Education
3. Controller of Examinations

Essential Qualifications

Director (Academic Staff College)

Applicants should possess a Doctorate Degree in Education/Educational Psychology with ten years of UG PG teaching and research experience in the age group of 45 to 50 (subject to relaxation in the case of deserving candidates).

Director (Institute of Correspondence Course and Continuing Education)

Applicants should possess a Doctorate Degree either in any discipline with ten years of UG PG teaching and research experience with wide knowledge in the administration of non-formal educational institutions.

Controller of Examinations

Applicants should possess high academic qualifications and administrative experience, preferably knowledge pertaining to University administration and conduct of examinations.

Scale of Pay : (for the three posts)

Rs. 1500-60-1800-100-2000-125 2.2500 with usual allowances.

Age Limit : 55 years.

1. Name of the applicant
2. Address (To which communication may be sent)
3. Age Date of Birth
4. Community (FC BC SC ST)
5. Present Position
6. Academic Qualifications (with dates on which degrees were taken)
7. Experience
 - (a) Teaching : 1. Degree level
 2. P.G. level
- (b) Research (with publications, if any)
- (c) Administration
8. Distinctions honours
9. Membership of professional, academic or scientific bodies
10. References (with names & addresses)
11. Testimonials
12. Any other information
13. Signature of the Applicant

Selected persons will be appointed on contract basis for a period of three years.

Candidates desiring to apply for one or more posts should send separate applications for each (in 8 copies).

The applications may be sent in a sealed cover addressed to Dr. T. Sivasankaran, Registrar, Madurai Kamaraj University, Madurai-625021 on or before 4th April, 1988 by Registered Post. The name of the post for which the candidate is applying may be superscribed on the cover.

Madurai-625021.

Date : 11.3.1988.

Dr. T. Sivasankaran
REGISTRAR

Science Education and Communication

A Centre for Science Education and Communication has been constituted in the University of Delhi to serve as an institution in which studies can be carried out by teachers and students and other interested individuals, for the generation of ideas and materials for the improvement of science education at university and school levels; and for the promotion of a wider interest in science and scientific issues, through all means of communications. The Centre has a governing council, programme advisory council, programme implementation committee and a council of associates.

The Programme Advisory Council shall perform the following functions

- (i) Monitor and evaluate the ongoing programmes of the Centre and examine fresh proposals,
- (ii) Formulate long term plans for the activities of the Centre
- (iii) Constitute panels of experts for scrutinising various project proposals,
- (iv) (a) Constitute Resource Groups working in various Colleges and University Departments to carry out the programmes of the Centre at the respective institutions.
(b) Form working groups based at the Centre for specific purposes,
(c) Affiliate those groups, clubs, and organizations involving students and teachers of the University who are engaged in the activities which are of interest to the Centre.

Such groups will be eligible for financial and other assistance from the Centre, subject to the approval of the Governing Council on a case to case basis,

- (v) Formulate collaborative programmes in association with groups or Institutions working in areas within the Centre's areas of interest, and
- (vi) Perform such other functions, as may be assigned to it by the Governing Council from time to time

Biographical Dictionary of South Indian Women

The Mother Teresa Women's University proposes to bring out a Biographical Dictionary on South Indian Women. To be the first attempt of its kind in India, the university feels that the Dictionary will help eradicate inequalities and promote national integration which are the principal factors for the promotion of international understanding.

The Dictionary will include biographies of women from all walks of life—politics, religion, social work, education, journalism, science, law, business, industry and also writers, poetesses, musicians, dancers, actresses and sports women who made tangible contribution either directly or indirectly to the growth of the Nation.

The Dictionary will not only be of use to the students of history but also to the general public. Apart from being used as a standard reference book, it is intended to serve as a light and pleasant informative reading material even

for those who are not interested in any serious study of history, politics and social development of South India. In addition to this, it will help unveil the various contributions of women which are either kept in the dark annals of books or are unaccountable.

It is also intended as a manual for students of women's studies, who are prepared to venture into attics, old people's parlours, art galleries, museums, libraries and record offices in their quest for the history of women and it will prove helpful both to individuals and to those who work on women's studies. This study will widen the field for the easy inclusion of needed biographies into the curriculum, which have been absolutely forgotten in the annals of history.

Further details about the project can be had from Dr A Suryakumari Prof & Head, Department of Historical Studies, Mother Teresa Women's University, Kodaikanal 624102

Orientation Programmes for Academic Counsellors

Hyderabad Regional Centre of Indira Gandhi National Open University has commenced a series of Orientation Programmes for Academic Counsellors for Preparatory Courses of Bachelor's Degree Programme and other programmes. The first Programme was conducted on 12-13 March, 1988. 35 Academic Counsellors drawn from colleges, universities and institutes of higher learning in South India participated in the Programme. The Orientation Programme comprised lectures, discussions and audio video presentations on open university and distance education systems, multimedia instructional system, face-to-face and correspondence tuition, an overview of university's modular academic programmes, etc.

Academic Counsellors would provide tutoring and counselling to University's students through University's network of 6 Regional Centres and 100 Study Centres spread over the entire country. Study Centres function on the premises of existing higher educational institutes and draw spare infrastructural and human resources of those institutions.

National Open University is currently running Diploma Programmes in Management, Distance Education, and Creative Writing in English besides Bachelor's Degree Programme. Preparation is on for courses in Food and Nutrition, Library Science, Rural Development, Higher Education, Aeronautical Engineering, etc. The teaching system of University which is cost effective and cost efficient includes print materials, broadcast audio visuals, non-broadcast audio visuals, practical work and inter-personal communication.

Professional Development in Higher Education

A Centre of Professional Development in Higher Education has been established at the University of Delhi. The Centre would organise orientation programmes as well as refresher courses of varying durations based on a discipline or within an interdisciplinary framework or on selected techniques and methodologies. Registration in any of these programmes or courses would be done on the sponsorship by the colleges and departments. The courses would comprise intensive learning exercises wherein an adequate amount of teaching would be complemented by a large amount of guided self-learning through such instrumentalities as seminars or term papers.

With a number of advanced Centre of Studies in various subjects

in the University, Centres of Special Assistance and a large number of research projects being undertaken in various departments in subjects along the frontiers of knowledge, this centre for professional development would be in a position not only to look after the development programmes for

the faculty of the University and its colleges, but would be in a position to provide such facilities for faculty member from other Universities. Prof. N.K. Ray, a distinguished scientist has been appointed as Director of this Centre.

News from Agril. Varsities

Varsity Status for NDRI

A four-member Committee of the UGC is reported to have recommended a deemed university status for the National Dairy Research Institute (NDRI), Karnal (Haryana), in view of its immense contribution in the field of milk production and selective conservation of breeds and its being the only institute of its kind in the whole of South-East Asia and West Asia. The institute runs several undergraduate, postgraduate and Ph.D. programmes in dairying on trimester basis.

NDRI plans to add master's degree programme in bio-technology and a Ph.D. programme in the same discipline once the deemed university status is granted to it. At present, it is running Ph.D. programme in 10 disciplines including animal genetics and breeding, animal physiology, animal nutrition, dairy chemistry, dairy bacteriology, animal biochemistry, dairy technology, dairy engineering, dairy economics and dairy extension.

It also runs master's programme in 12 disciplines of dairying, bachelor's programme in dairy technology and postgraduate diploma in analytical research techniques, quality control in dairy pro-

cessing and management of dairy enterprises.

Scientists from Nepal, Tanzania, Vietnam, Iraq, Afghanistan, Philippines, Egypt, Ethiopia and Bangladesh are being trained by the institute on regular basis.

Dairy Science Centres

The Indian Council of Agricultural Research (ICAR) is reported to be considering a proposal to set up four regional dairy science centres to impart dairy education in the country. One centre each is likely to be set up in north, south, east and west parts of the country. The centres would have uniform syllabi and a common entrance test on all-India basis.

Another major proposal recommended by a joint panel of the National Dairy Development Board (NDDB) and ICAR is to increase the duration of dairying course by one year. The addition of one year to the existing four-year course would be utilised for in job training for which the scientists would be paid.

Workshop on Renewable Energy Sources

A four-day workshop of the All India Coordinated Project on renewable sources of energy for agricultural and agro-based industries was held at Dharwad recently. Jointly organised by the Indian Council of Agricultural Research and the University of Agricultural Sciences (UAS), Dharwad, the workshop was inaugurated by Dr J V Goud, Vice-Chancellor. In his address Dr Goud called for developing cheap and reliable technologies with locally available materials in order to popularise renewable sources of energy in rural areas. He said he was happy that groups of Agricultural Engineers and Microbiologists were actively engaged in exploring energy from renewable sources and also economising its use for maximum benefit.

Dr Goud wanted that the dissemination of information on use of renewable sources of energy must be carried out at acceptable time-tested levels. The progress achieved by China in the sphere of biogas was entirely due to better techniques of dissemination of successful field testing, he said. He also suggested that the new energy sources should facilitate a link between biomass and quality of soil so as to intergrade livestock as waste producers and providers of mechanical energy.

Dr T P Ojha, Director, Central Institute of Agricultural Engineering (CIAE), Bhopal presided over the function. About 50 scientists from various universities participated in the workshop.

Combating Heliothis

A National Workshop on the Management of the American cotton bollworm, *Heliothis* was held at

Tamil Nadu Agricultural University (TNAU), Coimbatore recently. Dr V. Rajagopalan, Vice-Chancellor, TNAU, in his presidential address emphasised the need for an organised surveillance system on *Heliothis* and also integrated pest management to avoid loss in yield. He also released a book entitled 'Resurgence of sucking pests' and the first issue of the "Journal of Biological Control".

Dr M V Rao, Special Director General, ICAR, New Delhi appreciated the collaborative efforts of TNAU and the State Development Departments in implementing the pest surveillance and integrated management strategies to control *Heliothis* as well as other pests on major crops and desired other States to emulate these efforts. Mr A Viswanathan, Director of Agriculture, Madras pointed out the role played by the State Department of Agriculture in pest monitoring from 7,250 points of the State. Dr S Jayaraj, Director Centre for Plant Protection Studies TNAU in his key note address out-

lined the future thrust of research on the management of *Heliothis* by the University.

Waste Land Development in Marathwada

The Marathwada Agricultural University in collaboration with the Vanrai Institute for Integrated Forestry Systems, Pune organised a seminar on waste land development at Parbhani recently. Shri Mohan Dharia, former Minister, Government of India, who inaugurated the seminar, stressed the need for afforestation in Maharashtra State in general and in the Marathwada region in particular. He pointed out that the objective of the seminar was to study the waste land development problems and work out integrated forestry programmes for the Marathwada region.

Dr P V Salvi, President, Association of Indian Universities and Vice Chancellor, Marathwada Agricultural University, who presided, stressed the need to strengthen research on social forestry. He

Professor Mukherji Passes Away

Prof Sund Kumar Mukherji, Former Vice-Chancellor, Rajendra Agricultural University, Pusa passed away on 5th March, 1988 at Delhi. An eminent Agricultural Scientist, he successfully combined teaching, research and administration during his eventful career. He joined Agricultural Department, Bihar in 1944, taught Agronomy at Bihar Agricultural College 1950-55 and Ranchi Agricultural College 1955-59. Before joining Indian Council of Agricultural Research in 1962, he also served as Principal, Tirhoot Agricultural College, Dholi and also Director, Regional Research Institute Pusa. He served ICAR with distinction where he rose to the position of Deputy Director-General. He returned to his home state to serve as the Vice-Chancellor, Rajendra Agricultural University for two years. Prof Mukherji published a number of scientific papers on Agronomy. His major research contribution has been evolution of three promising strains (T3, T10 and T15) of *Pennisetum Pedicellatum* grasses as outstanding forage crops far superior to Sorghum or Sudan grass.

In his death the country has lost an eminent agricultural scientist and educationist who was a source of inspiration to his innumerable students and admirers.

emphasised the necessity to identify species of fruit and forestry plants which can be grown in the Marathwada region. He said that a large number of plants preferably in polythene bags should be made available to farmers at places convenient to them and at reasonable prices.

Shri Balasaheb Bhardwaj, former Speaker of the Maharashtra Legislative Assembly also addressed the seminar. He said that the future of the country was dependent on the development of waste lands and emphasised the need for financing from banks and involvement of T&V system in Agro-forestry work.

Dawkins, a committee has been set up, under the Chairmanship of Mr. Neville Wran, to examine alternative forms of financing higher education, including re-introducing tertiary fees and a graduate tax for funding the government's plans for a huge expansion of higher education over the next 12 years.

Under a proposal before a federal government committee future graduates would pay a 1 per cent tax levy on their salaries for 10 years. The tax could raise more than A \$ 350 million over a 10 year period.

According to a green paper on higher education, proposals to increase the number of graduates from 88,000 in 1986 to 125,000 by 2001 could lead to a budget shortfall of up to A \$ 1200 million.

In a submission to Mr. Dawkins and the Wran Committee, a Melbourne academic has argued strongly that a 1 per cent tax surcharge on the salaries earned by graduates would be a fairer and more economical way of implementing a "user-pay" system than tertiary fees.

In the submission, the head of the urban studies unit at the Footscray Institute of Technology, Mr. Rodger Ladd, points out that the average salaries of Australian males with bachelor degrees are more than 50 per cent higher than those with no qualifications.

News from Abroad

Open University Expansion Plans

European distance teaching universities could be linked in an association within five years. This was stated by Dr. John Horlock, Vice-Chancellor of Britain's Open University (OU) while addressing the graduates in Brussels. The new arrangements would facilitate course and credit transfers across national boundaries.

Dr. Horlock was outlining the university's plans for expansion in Europe. Advanced technologies feature strongly with the development of Saturn (Scientific and Technological Updating by Remote Networks) which has enabled the OU to feature in three projects funded by the EEC's Comett programme.

The only outlet for students to take OU courses outside Britain (except for forces posted overseas), the scheme started experimentally in 1982 offering five courses through the British Council in Brussels, for Britons only. It later expanded the number of courses on offer, and opened up to people of other nationalities living in Belgium and Luxembourg.

Over 100 courses are now on offer, including four of the five foundation study programmes—arts, mathematics, social sciences and technology. The fifth, science, remains unavailable, mainly be-

cause of problems sending chemical kits through the international mail.

Belgian, French, German and Italian nationals, as well as British, were among new OU graduates who received their degrees from Dr. Horlock. The graduates—most of them qualifying for bachelors degrees, but including one M.A. awarded to retired German Dieter Stumpf—have all been studying through the OU's Belgium and Luxembourg Scheme.

Taxing Graduates

Australia may become the first developed country to introduce a graduate tax. According to the Federal Minister for Employment, Education and Training, Mr. John

Sports News

Varsity Team for Rowing Championship

An 11 member Indian Universities Team has been selected for participation in the Senior National Rowing Championship for men. The team is at present attending the coaching camp at Calcutta University under the supervision of Dr. Anirudha Ray. The Nationals will be held at Calcutta from March

31 to April 3, 1988. The members of the team are: Ajay Gupta, Amit Chatterjee, Manoj Menon, Bimla Ghosh (Calcutta Univ.); K.M. Sridhar, S. Narasimhan (Capt.), Shiv Kumar, Sanjay Raghurao, (Madras Univ.); Asif Rehan, A.F. Khan, and Arif Irfan (Osmania Univ.).

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The Library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month' while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

RESEARCH IN PROGRESS

A List of Research Scholars Registered for Doctoral Degrees of Indian Universities

SOCIAL SCIENCES

Library Science

- Sharma, Dev Raj. *A critical evaluation of reference and bibliographical sources in Sanskrit language and literature*. Panjab. Dr. Rama Kanti Sharma and Dr. H.R. Chopra.

Psychology

- Arora, Anu. *A study of correlates of sensation seeking among college students*. Panjab. Dr. Meena Schgal and Dr. Anuradha Bhandari

- Bhatia, Sanjai. *Creativity, intelligence and sex as determinants of extra sensori perception among children*. Panjab. Dr. Meena Schgal and Dr. Anuradha Bhandari.

- Jas Kiran Kaur. *Perception of child rearing practices, adjustment and academic achievement of children of working and non-working mothers*. Panjab. Prof. (Mrs) Vidhu Mohan.

- Khanna, Jyotsana. *Certain personality and socio-demographic correlates of clothing behaviour and clothing motivation*. Panjab. Dr. Promila Vasudeva and Dr. Sudesh Gakhar.

- Poonam. *A study of social and psychological factors in families with handicapped children*. Panjab. Dr. (Mrs) Prem Verma.

- Rajinder Pal Kaur. *Teacher effectiveness in relation to personality, motives, job satisfaction and quality of working life*. Panjab. Dr. (Miss) Meena Schgal.

Sociology

- Jodhaka, Surinder Singh Jaisingh. *Development and debt : A sociological study of the changing credit relation in Haryana agriculture*. Panjab P.N. Pimpley.

- Sharma, Priya. *Communalism in Punjab and its socio-logical impact on the Punjabi Hindus*. Panjab. Dr. K. Gopal Iyer.

Social Anthropology

- Bhatia, Kiran. *Family power structure : A comparative study of rural and urban women of Haryana*. Panjab. Dr. (Mrs) S. Mehta and Dr. (Miss) Pam Rajput.

- Pakyntein, Valentina. *Khasi women in an urban milieu: Study of urbanization in Shillong and changing position of Khasi women*. Delhi. Dr. J.S. Bhandari.

Political Science

- Bajaj, Prem Kanwal. *Pressure groups in Panjab agriculture 1966-86*. Panjab. Prof. Iqbal Nath Chaudhary.

- Dhand, Raj Paul. *Delimitation of air-space and outer space : A problem in aero-space law*. Panjab. Dr. (Miss) Pam Rajput.

- Issa Jeries Issa Al-Midanat. *The Arabs and the Palestine problem : A study of Egypt's attitude toward the Palestine liberation organization (PLO) 1948-1987*. Panjab. Dr. K.K. Pathak.

4. Mathew, George. *Impact of trade unionism on the industrial relations in Kerala*. Kerala. Dr. D. Jayadevadas.

5. Negi, Sudeesh. *Political and social implications of the adult education : A case study of Himachal Pradesh*. HP. Dr. Javed Alam.

6. Parmjit Singh. *Geopolitics of Indo-Pakistan equation in the Indian Ocean*. Panjab. Prof. M.M. Puri.

7. Priyadarshini, Alka. *The problem of ethnicity and the separatist movement in Sri Lanka*. Panjab. Dr. (Miss) Pam Rajput.

Economics

1. Deshmukh R.K. *Growth centre—A strategy for rural development : A case study of Warana cooperative complex*. Shivaji. Dr. S.S. Sahasrabudhe.

2. Deshpande, S.V. *A study of the problems of the decentralized sector of the textile industry in Ichalkaranji*. Shivaji. Dr. S.S. Sahasrabudhe.

3. Gupta, Vinod Prakash. *Integrated rural development : A Gandhian perspective : A case study of District Shimla*, H.P. Panjab. Dr. S.L. Malhotra and Dr. Jai Narain.

Public Administration

1. Bansal, Sangeeta. *Industrial cooperatives : An analytical study of the Haryana State Industrial Cooperative Federation Limited*, Chandigarh. Panjab. Dr. B.B. Goel.

2. Dogra, Avil Kumar. *An analysis of the management of the Himachal Pradesh State Cooperative Marketing and Consumer Federation Limited*, Shimla. Panjab. Dr. B.B. Goel.

3. Duggal, Jatinder Kumar. *Industrial Finance Corporation of India : A critical study of its organization and working*. Panjab. Dr. (Mrs) Shyama Bhardwaj.

4. Jagroop Singh. *Judicial administration : A study of District Courts Chandigarh*. Panjab. Dr. B.B. Goel.

5. Shiv Kumar. *Hospital administration : A study of General Hospital, Sector 16, Chandigarh*, U.T. Panjab. Dr. S.L. Goel.

6. Vaid, Pradeep Kumar. *An analysis of management of Himachal Pradesh Tourism Development Corporation Limited*, Shimla, HPTDC. Panjab. Dr. (Mrs) Shyama Bhardwaj.

Military Studies

1. Bhatia, Satnam Singh. *The I.N.A. and India's freedom struggle*. Devi Ahilya. Dr. O.P. Sharma.

2. Chouhan, Madan Singh. *Nishastrikaran kee samasya aur Bharot kee bhumika*. Devi Ahilya. Dr. O.P. Sharma.

3. Sharma, Jyoti. *Defence and foreign policy : An analytical study of the interaction of defence and foreign policies of India from 1962-1971*. Devi Ahilya. Dr. O.P. Sharma.

4. Yadav, Tara Chand. *Sino-Vietnam War of 1979 : A case study of balance of power in South East Asia*. Devi Ahilya. Dr. K.P. Patidar and Harvir Sharma.

Education

1. Baltej Singh. *Effectiveness of inquiry training model of teaching on cognitive development and acquisition of process skills in relation to self concept and intelligence*. Panjab. Dr. G.S. Sodhi.

2. Behal, Vinay. *Effectiveness of different models of teaching on acquisition of concepts and attitude towards mathematics in relation to intelligence and cognitive style*. Panjab. Dr. G.S. Sodhi.

3. Gill, Tejinderjit Kaur. *The effect of training strategies on creative problem solving skills and cerebral dominance in relation to intelligence, personality and cognitive style*. Panjab. Dr. G.S. Sodhi.

4. Harjinder Singh. *Effectiveness of different integration strategies for developing teaching skills among student-teachers : A mega-teaching approach*. Panjab. Dr. G.S. Sodhi.

5. Jatinder Pal Singh. *A study of selected motor fitness components of physical education majors in relation to selected psycho-physiological variables and body composition*. Panjab. Dr. Harnam Singh.

6. Joshi, V.K. *A comparative study of the efficacy of some stimulus media*. Banasthali. Dr. C.B. Mathur.

7. Mathur, Madhu. *A study of spontaneous art of high and low achievers*. Banasthali. Dr. C.B. Mathur.

8. Saxena, Radha Rani. *A study of the intellectual and non-intellectual characteristics of slow learners*. Banasthali. Dr. K. Kumar.

Commerce

1. Harpreet Kaur. *Development dynamics, socio-economic conditions and work participation of women : A study of planning era in India*. Panjab. Dr. S.P. Singh and Shri A.C. Jitka.

Home Science

1. Garg, Seema. *Developmental comparisons between girls residing with working and non working mothers*. Banasthali. Dr. K. Kumar.

2. Jain, Sashi. *Secular trend of growth in urban school girls*. Banasthali. Mrs. Maya Choudhary.

HUMANITIES

Fine Arts

Drawing & Painting

1. Bhardwaj, Bibita. *Rajasthani chitrakar parampara mein Jaipur shikhi ka vartman swaroop va upaka adhunik kala per probhab*. Banasthali. Prof. Deeki Nandan Sharma.

Language & Literature

English

1. Ball, Krishan Kumar. *Symbolism and myth in Raja Rao's fiction : A new interpretation*. Panjab. Dr. Lille Madadajil.

2. George, Raju. *Mythical elements in Raja Rao's novels*. Kerala. Dr. K. Radha.

3. Jaidev, Singh. *Art and commitment in the plays of Arnold Walker*. Panjab. Prof. M.L. Raina.

4. Joseph, Sujatha. *Indian critics on Shakespeare*. Kerala. Dr. K. Ayyappa Panicker.

5. Mahender Pal. *Quest for self identity in E.M. Forster*. Panjab. Dr. D.D. Jyoti.

6 Minnie, S. *Quest for emanicipation in the novels of Iris Murdoch*. Kerala. Dr. V Rajakrishnan.

7 Rai Shilpa, Sonia Philip Larkin and movement poetry. A study in comparison and contrast Panjab. Dr M. Jaidka.

Sanskrit

1 Sharma, Asha *Sant Ravidasa aur Sant Dadudayala ka darshanika dristi se tulanamaka adhyayan* Panjab Dr VP Upadhyaya

2 Sharma, Dev Raj. *Philosophical and psychological study on Prabodhchandrodaya*. Panjab Dr Dharmanand Sharma

3 Sushma Kumari *The elements of love in gadya karya Brhatkriya* Panjab Dr Girish Chander Ojha

4 Yadav, Umesh *Yajush mantron mein adhyatha bhava Ek alochnatmak anushHEELAN* Panjab Prof B.L. Bhartiya

Punjabi

1 Arun Kumar. *Atharveni sadi tak de Punjabi Sufi kavich bhagti da sankalp Ek alochnatmak dahyayon* Panjab Dr Jaspal Singh

2 Baljit Kaur *Giani Gurmukh Singh Musafir de sahur vich rashiqli chesno* Panjab Dr Kessar Singh Kessar

3 Balwinder Kaur Sheikh Fa id dee kavita de manavi sarakar Panjab Prof Attar Singh

4 Chhinder Kaur *Nanak Singh de navalan ute samajik rajniki takhan da prakhar* Panjab Prof Kartar Singh Suri

5 Dharam Singh *Punjabi nikki kahin vich badal tahe samajik rishie ate naikit mul 1960-85*. Panjab Dr Kessar Singh Kessar

6 Dhusi, Narinjan Singh *Ideological basis of Punjabi novel Panjab* Dr Kessar Singh Kessar.

7 Gill Parvinder *Punjabi novel vich Malte da bimb* Panjab Dr Hardev Singh Sachar

8 Harcharan Singh *Nanak Singh de naralan ja samas shastri adhyayan*. Panjab Dr. Jigir Singh

9 Hardiljit Singh *Bharti darshan de prasang vich Guru Tegh Bahadur dee bani da adhyayan*. Panjab Dr Ragbir Singh Chandi

10 Harpal Singh *A study of Rattan Singh Bhangu's pracheen ponhi prakash* Panjab Dr Darshan Singh

11 Jasbir Kaur *Santokh Singh Dhir dee galp chetna* Panjab Dr Kessar Singh Kessar

12 Jaspal Singh *Galphar Vaurang Singh darishtikon se shilp vidhan*, Panjab Dr Hardev Singh Sachar

13 Major Singh *Punjabi novel vich algar bodh 1960-85* Panjab Dr Kessar Singh Kessar

14 Manjot Kaur *Nanak Singh de navalan vich khainavak da sankalp* Panjab Dr Hardev Singh Sachar

15 Rajwinder Kaur *Guru Nanak bani vich gurmukh da sankalp*. Panjab Dr (Mrs) K.K. Kohli

16 Saro, Gurmit Singh. *Aadhunik Punjabi kav vich narakasruti pravritti*. Panjab. Dr. Achhar Singh Kahlon

17. Sarabjit Kaur. *Nanak Singh de navalan da shilp vidihanik adhyayan*. Panjab. Prof. K.S. Suri.

18. Sat Pal Singh *Punjabi rangmarch, Itihask te stdhantak parpekh : 1987 tak de naikan de sandarbh vich Panjab* Dr. Ragbir Singh

19. Sohni Sadir *Surinder Singh Narula de navalan de naik da sarup* Papajab Dr Kessar Singh Kessar

Hindi

1 Ashok Kumar *Sathottar pramukh Hindi natakon mein astutva vadi chetna* HP Dr O.P. Sarswat

2 Bhardwaj, Shobha *Bilaspur kshetra ke lokeeton mein lokejevan* HP Dr Jagat Pal Sharma

3 Chauhan, Shakuntala Devi *Bharat Bhushan Aggarwal ka kavya samvedna aur shilpa* HP Dr (Mrs) Krishan Rama.

4 Dewan, Kiran Bala *Ramcharit Manas mein yog tatha samadhi ka swaroop* Panjab Dr Laxmi Narain

5 Dwivedi, Satya Brat *Hindi ke budhiliparak shabdon ka vishleshitaratamak adhyayan* Panjab Prof D.P. Maini

6 Gautam Sohan Lal *Athen dashak kee pragtisheel kavita Vyayga ke sandarbh mein* HP Dr Lallan Rai

7 Joshi, Harsh Wardhan *Kyonhall ka bhasha vaigyanik adhyayan* HP Dr Jagat Pal Sharma

8 Khanna, Monika *Manav mulyon ke sandarbh mein Jaunender Kumar ke upanyason ka adhyayan* Panjab Prof D.P. Maini

9 Persik Nirmala. *Saiholtary Hindu kavita ke sandarbh mein Kedarnath Singh ka karya* HP. Dr Krishan Kumar.

10 Rekha Rani *Manav mulyon ke sandarbh mein Vijayender Snatak ke nibandh* Panjab D.P. Maini

11 Risbi Ram *Chhayavadottar nihakadharit Hindi prabandhakaron mein yuddha kee samasya* Panjab Dr Lakshmi Narayan Sharma

12 Sharma Anita *Vagnya bodh ke sandarbh mein Hindi kahani 1960 se 1985 tak* Panjab Dr Yash Gulati

13 Sharma, Anu *Ramayan evami Mahabharat se sambandh naikarita ke prabandh kavyon mein mulyan chetna* HP Dr O.P. Sarswat

14 Sharma, Aruna *Kedarnath Aggarwal ke karya mein samajik aur rajnitik vitharth* HP Dr (Mrs) Krishna Raina

15 Sharma, Dev Kala *Mahadevi Verma ke gadya mein samvedna evam shilpa* HP Dr (Mrs) Krishna Raina

16 Sharma, Hem Raj *Himachal ke Hindi kavita kee samvedana*. HP. Dr Krishan Kumar.

17 Sharma, Lalita *Kamaleshwar ke katha sahitya mein yugchetana* HP Dr (Mrs) Anjana Chauhan

18 Sharma, Laxmi Ram *Nirala karya mein ryanga aur vridambha* HP Dr Anil Rakesh

19 Sohan Lal. *Agyeya kee karta chetna ka vikas kram aur wika saidhanik aadhar* Panjab Dr L.N. Sharma

20. Vidusbi *Nau kahani Prateek sandarbh* Panjab Dr Paresh

Malayalam

1. Vasukuttan, K.A. *The treatment of modern scientific subjects in Malayalam*. Kerala.

History

1. Gupta, Roshan. *An historical approach to the myths and legends of the vedas.* Panjab. Dr. S.N. Chopra.
2. Gurdip Singh. *Administration of Sikh Gurudwara's and settlement of dispute : A study of Sikh gurdwara judicial system.* Panjab. Dr. Darshan Singh and Dr. Satpal Singh.
3. Khaoos, Ashok Kumar. *Artisans in Ancient India : Vedic to pre-Gupta.* Panjab. Dr. S.N. Chopra.

4. Param Preet Kaur. *Socio-cultural life under the pratiharas period.* Panjab. Dr. Sudarshan Kumar.

5. Raghuvaishal, Jitender. *Gandhi and the Indian capitalists.* Panjab. Dr. S.L. Malhotra and Dr. Jai Narain.

6. Sharma, Urmila. *The agrarian system of Rajasthan, 1818-1947.* Banasthali. Dr. K.R. Sharma.

7. Sachi, Swaran Singh. *Structure and organisation of the Nandhari movement, 1799-1969.* Paojab. Dr. C.L. Datta.

THESES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities

SOCIAL SCIENCES

Psychology

1. Charyath, P.J. *Psychological study of superstition among college students.* Madras.
2. George, V.D. *Personality factors related to vocational choice.* Kerala. Dr. H. Sim Sananda Raj.
3. Hemalatha, Sheela. *Student scholastic performance and teacher job involvement, creativity and organisational climate.* Madras.
4. Mehta, Karuo. *Intelligence and information processing in children : A developmental study of perceptual processes.* Delhi.
5. Nath, Lalmohan. *Role of personality characteristics for success in medical training course.* Calcutta.
6. Pal, Tapasi. *A study on the psychological and bio-physical variables of the mentally retarded.* Calcutta.
7. Radhamani, S. *A study of certain personality and environmental factors in juvenile delinquency.* Madras.
8. Venkata Ananda Rao Thota. *Managerial role ambiguity differential influence of contextual determinants.* Andhra.
9. Vijayalakshmi, H. *Risk-taking behaviour, future time perspective and job performance of managerial personnel.* Madras.

9. Sachithanandan, A.N. *Housing delivery system for the urban poor in Madras City.* Madras.

10. Sawardekar, Asha V. *Voluntary social welfare organisations in Goa : A sociological study.* Shivaji. Dr. V.A. Sangave.

11. Shrivastava, R.K. *Social and economic consequences of the impact of Coal Mines on the Kawar Tribe in Madhya Pradesh.* Vikram. Dr. C.M. Abisham.

Social Anthropology

1. Mahadevan, Usha. *Determinants of population trends among the Tamil Brahmins of Tamil Nadu.* Delhi.
2. Sharma, Shashi Krishna. *Family structure and socialisation process among the Jains in Madras City.* Madras.

Social Work

1. Vijayaram, G. *Slum improvement and community organisation in Madurai City with special reference to the impact of the levels of culture of poverty.* Madras.

Political Science

1. Al-Eryani, Abdul Quwi. *Non-aligned movement and the Arab World.* Delhi.
2. Aranganayakan, C. *Education as an agency for social, economic change in Tamil Nadu.* Gauhati. Dr. V.V. Rao.
3. Azarcava, Ram Kanwar. *Bloc-rivalry in sports during post second world war period : A diplomatic study.* JNU. Dr. Pushpesh Pant.
4. Bhavani, S. *India's foreign policy in Southeast Asia, 1954-1964.* Madras.
5. Saikia, Hemo Prova. *The administration of local boards in Assam.* Gauhati. Dr. V.V. Rao.
6. Tewari, Rashmi. *Bharat-Soviet Sambandh, Jan 1971 ke uprani 1987 tak.* Vikram. Dr. R.S. Gaotam.

Economics

1. Brahmamandam, V. *Regional rural banks in Andhra Pradesh : The problem of viability.* Osmania.
2. Chandel, Balwant Singh. *Farm planning in agriculture under risk and uncertainty : A study of Kangra District, Himachal Pradesh.* HP Krishi. Dr. Parkash Mehta.

3. Gupta, M.C. *Profitability analysis of cement industry with special reference to cement units in Rajasthan*. Rajasthan, Dr. D.C. Jain.

4. Gupta, Rajendra. *Inflation in India, 1970-80*. Jammu, Dr. P.C. Jain.

5. Janakarajan, S. *Aspects of market inter-relationships in a changing agrarian economy : A case study from Tamil Nadu*, Madras.

6. Joshi, N.C. *Jila Sehkar Bhoomi Vikas Bank : Shaajapur ka ek vishesh adhyayan*. Vikram, Dr. A.K. Bhattacharya.

7. Jugale, Vasant Bir. *Socio-economic and technological impact of cooperative credit on agriculture*. Shivaji, Dr. J.F. Patil.

8. Kamala Kumari, Nathala. *Trends in production and imports of edible oils of India*. Andhra.

9. Mathew, P.M. *Economics of crepe rubber industry in Kerala*. Calicut, Late Dr. K.M. Mathew.

10. Mishra, Kanak Manjari. *Economics of irrigation rates in Orissa*. Utkal.

11. Mishra, Surendranath. *Orissa State Electricity Board : An analysis of its working*. Utkal.

12. Mulani, Tayyab Kasim. *An economic study of famine effected villages of Sangola Toluka in Sholapur District in Maharashtra*. Shivaji, Dr. Y.B. Ghuge.

13. Narayanasamy, V. *Patterns and factors in the growth of small manufacturing firms in Coimbatore City*. Madras.

14. Padmanabhan Nadar, K. *An economic analysis of marketing of cane-Jaggery in North Arcot District of Tamil Nadu*. Madras.

15. Sah, Situ Ram. *Problems of rural development in Sikkim with special reference to agriculture from 1951-1981*. NBU.

16. Samuel Soundara, M. *Political economy of agrarian change in Nanchil Nadu, The late nineteenth century to 1939*. Madras.

17. Schvaraj, C. *An analysis of the flow of funds of the household sector in the Indian economy*. Madras.

18. Shaha, Rupa Shantilal. *A study of integrated rural development programme in Kolhapur District*. Shivaji, Dr. R. R. Doshi.

Law

1. Ajai Pratap Singh. *The role of public prosecutor in system of public prosecution in India with special reference to Union Territory of Delhi*. Delhi.

2. Thapalia, Shanta. *Termination of marital status and its legal consequences in Nepal*. Delhi.

Education

1. Balasankar, P. *A study of work experience programmes in schools of Kerala and formulating guidelines for strengthening the programme*. Kerala, Dr. K.R. Sivadasan.

2. Chandra Reddy, G. *The Impact of formal education on agricultural income in A.P.* Osmania, Madras.

3. Chendurpandian, C. *Microteaching behaviour and teaching skill performance pattern in different school subjects*. Madras.

4. Chhina, Kewal Singh. *Organization and working of Sports Department in Panjab*. Panjab.

5. Dasgupta, Dipti. *Teaching school economics by the personalized system of instruction (PSI) : An experimental study*. Calcutta.

6. Hardayal Singh. *Assessment of motor abilities of Indian boys, age group 10-16 years*. Panjab.

7. Khan, Liaquat Ali Mohamood Ali. *A comparative study of the academic achievements of monolingual and bilingual students at S.S.C. level with special reference to their non-verbal intelligence and socio-economic status*. Marathwada, Dr. Ahmad Hussain.

8. Lenka, Bhagabat Prasad. *A critical estimate of the development of tribal education in the Districts of Mayurbhanj after independence*. Utkal.

9. Macfarland, Sister M. Claire. *A study of the effects of the effective classroom communication program on secondary school teacher*. Delhi.

10. Mohanty, Bhagyadhar. *A study of the pattern and problems of administration and supervision at primary level in Orissa*. Utkal.

11. Mohanty, Susandhya. *An appraisal of teaching science in the high schools of Cuttack City*. Utkal.

12. Singh, Mithlesh. *Constraints affecting Indian women's participation in games and sports*. Banasthali, Dr. L.K. Dad.

13. Subba Rao, Kutra. *An investigation into the problems of tribal education at the primary level with special reference to the Visakhapatnam District*. Andhra.

14. Thilukam, G. *Constructing a teaching aptitude test*. Madras.

Commerce

1. Bhat, Ramesh Kumar. *The time series behaviour of corporate earnings : An empirical study*. Delhi.

2. Deshpota, Hira. *Work measurement for administrative personnel with special reference to India*. Delhi.

3. Ghosh, Tara Pada. *Accounting for inflation : A cash flow apostasy*. Burdwan, Prof. Amit Kumar Mallick.

4. Haldar, Pralaykanti. *Analysis for harmonizing between the two extreme views of a sheet of balances and going concern concept of balance sheet*. Calcutta.

5. Kolekar, Bajrang Dattatray. *A study of human resources development in selected public sector undertakings in Maharashtra and Goa*. Shivaji, Dr. P.S. Rao.

6. Ramachandran Nayak, M.A. *A study of the role of commercial banks in rural development with special reference to Trivandrum District in Kerala*. Calicut, Dr. T. Govindan Kutty Nair.

Home Science

1. Malkit Kaur. *Assessment of nutritional status of young Panjab women*. PAU.

2. Sathyavathy, L.S. *Motivating rural families towards improved fuel management practices*. Madras.

Business Management

1. Balbirinder Singh. *A study of inventories : Its effects on the growth of core-sector industries under public sector since last two decades*. PAU.

Haryana Institute of Public Administration : Chandigarh

(Society Registered Under the Societies Registration Act XXI of 1860)

Advertisement No. 5/2-88-A (5)

The Haryana Institute of Public Administration, which is engaged in imparting training to IAS/HCS Probationers and other officers of State Services invites applications for the following posts :

1. Chief Planning Officer and Expert in Agriculture and Rural Development : 1 Post

Pay Scale : 1500-60-1800-100-2000-125/2-2500
(UGC pre-revised scale).
Age Limit : Not exceeding 50 years as on 30.4.88.
Essential Qualifications : Master's degree in Agriculture/Sociology/Agricultural Economics/Rural Development.

2. Expert in Economic and Financial Management : 1 Post

Pay Scale : 1500-60-1800-100-2000-125/2-2500
(UGC pre-revised scale).
Age Limit : Not exceeding 50 years as on 30.4.88.
Essential Qualifications : Master's degree in MBA with specialisation in Financial Management Master's degree in Economics.

3. Expert in Spatial Planning and Urban Development : 1 Post

Pay Scale : 1500-60-1800-100-2000-125 2-2500
(UGC Pre-revised scale).
Age Limit : Not exceeding 50 years as on 30.4.88.
Essential Qualifications : Master's degree in Planning Architecture from the School of Planning & Architecture Delhi or National School of Planning, Ahmedabad Or from a recognised Institute which offers an equivalent qualification.

4. Expert in Project Appraisal and Business Administration : 1 Post

Pay Scale : 1500-60-1800-100-2000-125 2-2500
(UGC Pre-revised scale).
Age Limit : Not exceeding 50 years as on 30.4.88.
Essential Qualifications : Master's degree in Business Administration with specialization in Project Management Appraisal.

5. Credit Planning and Public Finance Officer : 1 Post

Pay Scale : 1200-50-1300-60-1900
(UGC Pre-revised scale).
Age Limit : Not exceeding 45 years as on 30.4.1988.
Essential Qualifications : Master's degree in Business Administration with specialisation in Credit/Finance or Master's degree in Economics.

6. Expert in Systems Analysis and Computer Management : 1 Post

Pay Scale : 1200-50-1300-60-1900
(UGC Pre-revised scale).
Age Limit : Not exceeding 45 years as on 30.4.1988.
Essential Qualifications : A degree in Computer Engineering or M.Sc. in Computer or Master's degree in Business Administration with specialisation in Systems Analysis.

The candidates with consistently good academic record—First or high Second Class or B plus in the grading system will only be considered for all the above posts. Other essential qualifications for the posts mentioned above are as under :

- (a) A Doctorate degree or published paper of high standard.
- (b) At least 10 years experience, (for posts at Sr. No. 1 to 4) and 5 years experience (for posts at Sr. No. 5 & 6) in teaching Post Graduate classes and successfully guiding/conducting research in the relevant fields;

OR

At least 10 years experience, (for posts at Sr. No. 1 to 4) and 5 years experience (for posts at Sr. No. 5 & 6) as practising administrator in a responsible position in the area of expertise prescribed for the post.

Note : The above grades are likely to be revised on the pattern of revised UGC scales as announced by the Govt of India/Haryana Government.

2. Prescribed qualifications and age limit relaxable in the case of exceptionally qualified/experienced candidates. Appointments may also be made on deputation.

3. Appointments shall be made on probation for a period of one year which can be extended by another year.

4. Appointments may also be made on contract basis for a limited period.

5. The Institute reserves to itself the right to fill or not to fill the posts advertised.

6. Candidates for the posts mentioned above called for interview will be paid First Class Rail fare to and fro by the shortest route on production of either money receipt or ticket number or actual bus fare whichever is less.

7. Application, giving full particulars and qualifications (mentioning Division/Grade, percentage of marks obtained, year, Board/University from High School Examination onwards), Date of Birth, Experience, Present Pay and Pay Scale, Details of previous employment, if any, publications (mentioning the name of publisher(s) and years of publication, names of the journals and references regarding the issue in which published in respect of papers published) with copies of transcripts of two best articles published and transcript of one or two chapters from the main publication work should reach the Director, Haryana Institute of Public Administration, S.C.O. No. 2913-14, Sector 22-C, Chandigarh on or before 26th April, 1988. Incomplete applications and those received after the due date will not be considered.

Asha Sharma
DIRECTOR

NORTH EASTERN HILL UNIVERSITY

LOWER LACHUMIERE : SHILLONG

ADVERTISEMENT

CERTIFICATE COURSE IN FOLKLORISTICS

North-Eastern Hill University is introducing a CERTIFICATE COURSE IN FOLKLORISTICS at its Shillong Campus in the Centre for Literary and Cultural Studies. The Course, to be started from April 1988, will be of one Semester duration. Classes will be held in the afternoon between 2 to 4 P. M.

The Course will provide perspective in the scientific study of folklore with exposure to concepts and methods and familiarise the students with the rich treasure of folklore material of north-east India.

Eligibility : Any student who has passed B.A. B.Sc./B. Com. and has interest in folklore studies can apply.

Applications for admission to the Course in plain paper giving personal data (Name, Father's/Husband's name, date of birth, address etc. and academic qualification with copies of certificates, should reach the Head, Centre for Literary and Cultural Studies, North-Eastern Hill University, Mayurbhanj Complex, Nongthymmai, SHILLONG-793014, by 10th April, 1988.

CLASSIFIED ADVERTISEMENTS

UNIVERSITY OF KERALA UNIVERSITY BUILDING TRIVANDRUM-695 034

No. PR. 1201 (1) 1988

Dated : 10th March, 1988

NOTIFICATION

Applications are invited from qualified candidates for appointment to the following posts in the University :

Sl. No.	Name of Post	Department	No. of Posts	Scale of Pay	Remarks
1.	Professor	Education	2	Rs. 2450-3600	First Post— open merit; second, Ezava re- servation.
2.	Professor	History	1	2430-3600	Temporary; Open Merit upto 30-10-1991
3.	Director	Publications	1	2250-3350	(Non-Plan)
4.	Reader	Hindi	1	1950-2950	Open Merit
5.	Reader	Zoology	1	1950-2950	Open Merit
6.	Reader	Islamic History	1	1950-2950	Open Merit
7.	Reader	English (E.L.T. Centre)	1	1950-2950	Open Merit
8.	Reader	Law	1	1950-2950	Open Merit
9.	Reader	Statistics	1	1950-2950	Open Merit
10.	Reader	Library and Information Science	1	1950-2950	Reserved for S.C.
11.	Reader	Communication & Journalism	1	1950-2950	Reserved for Ezava Community
12.	Lecturer	Communication & Journalism	1	1300-2725	Open Merit
13.	Lecturer	Education	2	1300-2725	First post— Open Merit Second— reserved for Latin Catholic; Anglo- Indian.
14.	Lecturer	Philosophy	1	1300-2725	Open Merit
15.	Lecturer	Chemistry	1	1300-2725	Open Merit

Sl. No.	Name of Post	Department	No. of Posts	Scale of Pay	Remarks
16.	Lecturer	Commerce	3	Rs. 1300-2725	One post reserved for S.C.; one Open Merit; one reserved for Muslim Community.
17.	Lecturer	Geology	2	Rs. 1300-2725	One post reserved for Ezhava Community; One Open Merit.
18.	Technical Officer	Computer Science	1	Rs. 1250-2500	Open Merit
19.	Shift Operator	Computer Science	2	Rs. 1100-2100	One post reserved for S.C./S.T. community; one, Open Merit.
20.	Field Assistant (Male)	Demography & Population Studies,	1	Rs. 675-1125	Temporary; Open Merit

Qualifications	For Posts 4, 5, 9, 10	For Post 7
For Posts 1, 2		Essential
(i) A First Class Master's Degree or a Second Class Master's Degree with not less than 50% marks of an Indian University or an equivalent qualification of a foreign University in the subject concerned.	(i) A First Class Master's Degree or a Second Class Master's Degree with not less than 50% marks of an Indian University or an equivalent qualification of a foreign University in the subject concerned.	(i) M.A. in English with at least 50% marks.
(ii) Either a research Degree of a Doctorate standard or published work of high standard.	(ii) Either a research Degree of a Doctorate standard or published work of high standard.	(ii) Ph.D. Degree in English Language Teaching
(iii) About ten years experience of teaching at a University or College and experience of guiding research.	(iii) About five years experience of teaching at a University or a College and some experience of guiding research.	(iii) Five years experience in the production of E.L.T. Materials and/or designing E.S.P. courses.
For Post 3		(iv) Five years experience of appropriate teaching.
General : Master's Degree in any subject with First or Second Class of the University of Kerala or of any other University recognised by the University of Kerala.	For Post 6	Desirable
Technical : Experience of at least 3 years in editing materials/supervising text-books printing and text-book preparation.	(i) A First Class Master's Degree or a Second Class Master's Degree with not less than 50% marks of an Indian University or an equivalent qualification of a foreign University in Islamic Studies or Islamic History.	(i) Publication of Research papers relating to development of E.L.T. curricula.
OR	(ii) Ph.D. Degree in the subject concerned.	(ii) Language Laboratory experience (minimum one year).
Having authored and published own books of high standard.	(iii) Five years approved teaching experience at a University or in a College.	For Post 8
	(iv) Research experience as evidenced by publications in approved journals during the preceding five years of the date of application.	(i) A Master's Degree in Constitutional Law or Administrative Law from an Indian University or an equivalent qualification from a reputed foreign University in the above subjects.
		(ii) Ph.D. Degree with Specialisation in any area of Constitutional Law or Administrative Law.
		(iii) Five years teaching experience in LL.M. classes in a University

Department of Law or in a Law College affiliated to the University.

(iv) Research Experience as evidenced by publication in approved journals.

For Post 11

(i) A First Class Master's Degree or a Second Class Master's Degree with not less than 50% marks of an Indian University in Journalism/Mass Communication or Communication or an equivalent qualification of a foreign University.

(ii) Either a research degree of Doctorate standard or published work of high standard in Journalism/Mass Communication/Communication.

(iii) About 5 years of experience of teaching in a College/University or professional experience (print media/radio, T.V., etc.) or Communication Research.

For Post 12

A First Class Master's Degree in Journalism/Mass Communication/Communication of an Indian University with not less than 50% marks or an equivalent qualification of a foreign University, and two years approved research or teaching experience in a College/University or professional experience.

For Post 13 to 17

A First Class Master's Degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned and two years approved research or teaching experience in a College/University.

OR

A Second Class Master's Degree in the subject with not less than 50% marks and a Ph.D. Degree or published research work of high standard.

(Two years approved research or teaching experience in a College or University and Ph.D. Degree or published research work of high standard will be relaxed in the case of applicants for whom the post is reserved).

For Post 18

M.Sc. Degree (with not less than 60% marks) in Statistics/Mathematics/Physics with Specialisation in Electronics.

OR

B.E. (Electrical/Electronics) or equivalent Degree with not less than 60% marks.

Desirable : Experience in the field.

For Post 19

M.Sc. II Class in Physics or Mathematics or Statistics.

OR

B.E. or B.Sc. (Engg.) in Electrical or Electronic Engineering in II Class.

Experience : Experience in Computer Console Operation.

For Post 20

Essential : B.A., B.Sc. Degree with at least a Second Class.

Desirable : Field work experience in Social Surveys.

AGE (As on 1-1-1988)

(Usual relaxation for SC/ST/OBC candidates will be allowed. For the teaching posts, relaxation in upper age limit will be allowed in the case of persons already in the teaching service of the University).

For posts 1, 2 : Not more than 50 years.

For post 3 : Not less than 40 years and not more than 50 years (relaxable in the case of university employees).

For posts 4 to 11 : Not more than 45 years.

For posts 12 to 17 : Not more than 40 years.

For posts 18 to 20 : Not more than 35 years (relaxable for post 20 by five years in the case of persons who have served in Projects Schemes carried out in the University departments).

Note : In the case of reserved posts, if no candidates from the reserved community is found suitable, applicants from other reserved communities will be considered in accordance with the rules.

relating to communal rotation. In the absence of suitable candidates from any of the reserved communities, the vacancies will be treated as open, and filled up as Open Merit.

Application forms and details can be had on request from the Deputy Registrar (Administration), University of Kerala, Trivandrum (Pin : 695 014), on production of a challan receipt for Rs. 2/- (Rupees two only) remitted under Kerala University Fund Account in any branch of the State Bank of Travancore or Crossed Indian Postal Order (in the case of persons residing outside the State) for the amount drawn in favour of the Finance Officer, University of Kerala, alongwith a self addressed stamped envelope.

The last date for receipt of applications in the prescribed form is 20th April, 1988.

Prof. S.K. Rajagopal
REGISTRAR

THE UNIVERSITY OF BURDWAN

RAJBATI : BURDWAN
WEST BENGAL

Advertisement No. 12 87-88

Dated : March 17, 1988.

Applications in the prescribed form are invited for the post of "Controller of Examinations" in the approved scale of pay of Rs. 1500-60-180-100-2000-125-2250-. The post carries dearness and other allowances, and pensionary benefits according to the Rules of the University.

Educational Qualifications & Experiences

(a) Essential

(i) Uniformly good academic record with a B+Master's Degree or its equivalent.

(ii) At least 15 years' experience in Academic Institutions like University or in an Institute of higher learning of which 5 years must be in high level administration in a University or in an Institute of Post-graduate Study.

ATTENTION ADVERTISERS

Advertisers may please note that the deadline for receipt of advertisements for ensuing Monday issue is Tuesday 4 P.M.

(iii) Age not less than 40 years
Relaxable in the case of exceptionally qualified candidates

(b) Desirable

- (i) A Doctorate Degree or published research work of merit,
- or
- (ii) High level administrative experience in Government or Quasi-Government organisation or a good background in administration and management in senior position
- (iii) For the post it is essential to have experience in conducting examinations either in institution of higher learning or in Service Commission

The choice of the Selection Committee may not necessarily be confined to those who apply formally.

For application form and other information please apply to the Registrar, The University of Burdwan, Rajbari, Burdwan, with a self addressed stamped (Rs 1/-) envelope (9" x 4")

Last date for submission of application with the requisite fee of Rs. 5/- is 9th April 1988

P Banerjee
REGISTRAR

CSIR CENTRE FOR BIOCHEMICALS

Advertisement No. 188

(Facility for import and distribution of fine chemicals)

Scientist C- 1 post (Scale of Pay Rs 3000 100 3500-125 4500)

Essential Qualifications — 1st class M Sc in Organic Chemistry Biochemistry Postgraduate qualification in Marketing and Sales Management Project Management Experience—minimum of five years experience in Marketing/Production of fine chemicals and biochemicals Desirable—1 Knowledge of computer programming 2 Familiarity with storage, stability and shelf life of biochemicals 3 Knowledge of purity criteria of biochemicals.

Scientist B—5 posts (2 for ST and 1 for SC) (Scale of Pay Rs 2200-75 2800-EB-100-4000). In the event of non-availability of SC/ST candidates the posts will be filled

up by general category Essential Qualifications—post 1-first class M.Sc in Chemistry/Mathematics/Computer Science Desirable—formal training with two years experience in programming for office administration/accounts/ sales / inventory control etc Job Requirement—The candidate will be expected to help in implementing computerised methods for office administration accounts, sales/inventory control and maintenance of records

Posts 2 S—Essential Qualifications—1st class M.Sc. degree Ph.D. degree in Biochemistry Desirable 3 years of research experience after M.Sc (1 year after Ph.D.) in pre-

parative biochemistry/immunology, animal tissue culture/lipids in a recognised laboratory The candidate should be aware of modern advancements in biology and conversant with techniques used in biotechnology, especially those concerning their use in preparative biochemistry Applicants for the post of Scientist B with exceptional merit, qualities of leadership as demonstrated through their past performance publications may be considered for appointment at the level of Scientist C in the scale of 3000 100 3500 125 4500

Jr Technical Asstt.—3 posts (1 reserved for SC and 1 for ST)

INDIAN COUNCIL OF MEDICAL RESEARCH

The Council proposes to appoint three Junior Stenographers reserved for One SC and two ST categories for the Headquarters Office of the Council, New Delhi

Last date for receipt of application is 14th April, 1988

Qualifications

- (i) Matriculation Higher Secondary or equivalent examination
- (ii) Speed of 80 100 w p m in English Shorthand

Desirable

At least one year experience in English Shorthand in a Govt Semi Govt. Organisation

Age

Between 18 to 25 years (Relaxable upto 5 years)

Duration of Vacancies

Temporary but likely to continue

Scale of Pay

Rs 1200 30 1560-EB 40-2040

Application on plain paper giving full particulars should be sent to the Director General, Indian Council of Medical Research Ansari Nagar, New Delhi along with two copies of the latest passport size photograph and attested copies of educational qualification certificates and caste certificate Candidates employed in Government Semi Government Offices should submit their applications through proper channel Applications received after the closing date will not be considered

TA will be paid for appearing in the test and interview as per Govt rules

(Scale of Pay Rs. 1400-40-1800-EB-50-2300) (Posts 1 & 2)—Qualifications—B.Sc. with Chemistry/Microbiology/Life Sciences. Job requirements—To help the scientists in preparation, storage, packing and analysis of enzymes, biochemicals and of slaughter house bye-products. To work in R & D as member of a team and undertake other connected work in the lab. under the instructions of senior scientists.

Post No. 3 (reserved for ST)—Qualifications : Degree in Science with formal training in electronic data processing. Job requirement—To help in feeding and retrieval of data using computers for administration, accounts and sales etc. If no ST candidate is found suitable the vacancy will be filled by general category.

Jr. Sales & Distribution Asstt.—1 post (reserved for SC candidate) (Scale of Pay Rs. 1400-40-1800-EB-50-2300).*

Qualifications & Experience—Degree in Science with 3 yrs. sales experience in an establishment dealing in scientific items. Preference will be given to candidates familiar with office procedure/electronic data processing. Exposure to modern methods of office management, ability to correspond independently and supervise the work of junior staff will be desirable.

Technician Grade VIII—1 post (reserved for SC) (Scale of pay Rs. 1400-40-1800-EB-50-2300).

Qualification : ITI Trade Certificate in mechanical Engineering with about 15 years experience in the line. Job requirements—Maintenance and repair of instruments, equipments, pumps, air-compressors, vacuum pumps, fabrication of parts etc. and other related duties as may be assigned from time to time.

*If no SC candidate is found suitable the vacancy will be filled by general category.

The number of vacancies mentioned against each category is provisional and may vary at the time of selection. If more vacancies with identical job requirements become available, these can also be filled from among the candidates who might apply for the above posts.

Application forms can be obtained (free of cost) from the Administrative Officer, CSIR Centre for Bio-chemicals, C-11, Model Town III, Delhi-110009 upto 11.4.88. Separate application should be submitted for each post. The No. of advertisement, name of the post applied for and full address in block letters must be indicated at the top of the request form forms and sent together with a self addressed envelope of 22 cm. x 10 cm. size, affixed with stamps worth Rs. 0.90 p. for obtaining the application form.

Complete application in the prescribed form separately for each post, together with non-refundable application fee of Rs. 8/- (Rs. 2/- in the case of SC/ST) in the form of crossed IPO drawn in favour of Scientist-in-Charge, CSIR Centre for Biochemicals, Delhi, should reach this Office not later than

2-5-88. Applications must be supported by attested copies of certificates/testimonials relating to educational qualifications, date of birth, experience and original community certificate in respect of SC/ST candidates, from the appropriate authority.

A lower standard of suitability consistent with efficiency will be applied in respect of SC/ST candidates. Since it may not be possible to call all the candidates for interview, the applications will be shortlisted for the purpose and the decision of a duly constituted screening committee will be final in this regard. Applicants called for interview will be paid single second class rail fare to and fro from the actual place of undertaking the journey or from the normal place of residence whichever is nearer to Delhi Railway Station, on the production of relevant documents of travel. Applications from employees working in Govt. Deptt., Public Sector Organisations and Govt. funded research agencies will be considered only if forwarded through proper channel and with a clear certificate that the applicant will be relieved within one month of receipt of the appointment order. Incomplete applications in any respect and those received after due date are liable to be rejected.

Canvassing in any form and/or bringing in any influence, political or otherwise, will be treated as a disqualification.

*With Best Compliments
From :*

Phone No. : 228 38 76



L I T R I C O

1/7218, Shivaji Park
Shahdara, DELHI-110032

Suppliers of Back-Volumes of Journals, Serial Publications and Scientific and Technical Books.

KUMAUN UNIVERSITY, NAINITAL

Advertisement No. Aff 1946.

Dated : 14.3.1988

Applications for the following posts are invited by 30th April, 1988 on prescribed form obtainable from the Office of the Registrar, Kumaun University, Nainital-263 001 (U.P.) by sending self addressed 9" x 6" envelope and crossed postal order Bank draft for Rs. 8/- payable to the Finance Officer, Kumaun University, Nainital. Money orders are not acceptable.

Name of Post	Pay Scale	No. of Post	Specialization
1. Reader Geology	1200 — 1900	I Lv	Petrology
2. Lecturer Geology	700 — 1600	I R	Palaeontology

Note : R, implies regular; Lv, implies leave vacancy.

Qualifications

1. For the Post of Reader

- (i) Good academic record with a doctorate degree or equivalent; published work and active engagement in research or innovation in teaching methods or production of teaching materials; and
- (ii) Five years experience of teaching or research including at least three years as lecturer or in equivalent position

2. For the Post of Lecturer

- (a) A doctorate degree or research work of an equally high standard in relevant subject,
- (b) Consistently good academic record with first or high second class master's degree or an equivalent degree of a foreign University in relevant subject.

Further details regarding qualifications, service terms and permissible relaxations in qualifications will be provided with application form. Preference will be given to SC ST candidates if otherwise considered suitable by the Selection Committee. Application form will not be sent by post after 25 April, 1988 and application on plain papers and received after due date are not acceptable.

R.C. Pant
REGISTRAR

RANI DURGAVATI VISHWAVIDYALAYA JABALPUR

Advertisement

Applications are invited on the prescribed application forms (in eight copies) obtainable on payment of Rs. 15/- by Indian Postal Order from the undersigned for the following posts so as to reach the undersigned on or before 11th April, 1988 viz. :

1. One Professor in Law, One Dean College Development Council

- and One Director Adult Education in the scale of pay of Rs. 1500-60-1800-100-2000-125/2-2500.
- 2. One Reader : for the department of History in the scale of pay of Rs. 1200-50-1300-60-1900.
- 3. One Head of Computer Centre (System Manager) and One System Engineer : in the scale of pay of Rs. 1100-1600.
- 4. Two Programmers : in the scale of pay of Rs. 700-1300.
- 5. Two Computer Operators : In the scale of pay of Rs. 425-700.

6. Two Key Punch Operators : In the scale of pay of Rs. 260-400.

The prescribed application forms (in eight copies) together with details of qualifications, specialization etc., can be obtained from the undersigned on payment of Rs. 15/- in person or by sending a crossed postal order of Rs. 15/- payable to the Registrar, Rani Durgavati Vishwavidyalaya, Jabalpur, the candidates who desire to get the application forms by registered post, should send an additional amount of Rs. 7/- by Postal Order for postal expenses.

The University reserves the right not to fill in any post or not to call candidates for interview.

REGISTRAR

CENTRAL MINING RESEARCH STATION, DHANBAD

(Council of Scientific & Industrial Research)

Advertisement No. 2 88

Vacancy : Scientist 'C' and Scientist 'B'.

No. of Post : 25 (Twenty five) likely to increase.

Reservation : 15% and 7-12% of Scientist 'B' posts are reserved for Scheduled Caste/Scheduled Tribes candidate respectively.

Pay Scale: Scientist 'C': Rs. 3000-100-3500-125-4500/- plus usual allowances as per Central Govt. rates. Total emoluments at the minimum of the Scale Rs. 3710/-.

Scientist 'B': Rs. 2200-75-2800-EB-100-4000/- plus usual allowances as per Central Govt. rates. Total emoluments at the minimum of the Scale Rs. 2726/-.

Details may be seen in the Employment News dated 19.3.1988.

BANARAS HINDU UNIVERSITY

Advertisement No. 1/BKB/87-88

Applications are invited for the undermentioned posts. The benefit of Provident Fund/Pension, Dearness Allowance, House Rent Allowance and City Compensatory Allowances are admissible according to University rules.

The retirement age of the University employees is 60 years. The appointment will be made on one year probation on all permanent posts. Higher starting salary within the grade is admissible to specially qualified and experienced candidates.

Applications will be entertained on the prescribed form duly supported with a Bank Draft or Crossed Indian Postal Order of Rs 10/- (or Rs. 2.50 for the candidates belonging to scheduled caste/scheduled Tribes category) in favour of the Registrar, B.H.U towards application fee. Application form along with detailed qualifications will be supplied on receipt of crossed I.P.O./Bank Draft of Rs. 2/- in favour of the Registrar, B.H.U. and self-addressed envelope of 23 cm x 10 cm. size carrying stamps of Rs. 1.80. Candidates called for interview, will be paid actual Railway fare by the Second class plus reservation charges for sleeper, if paid, and or actual Bus fare from the present residence bothways by the shortest route as per University rules. No other expenses will be paid.

Applications for each post be sent separately alongwith attested copies of certificates and marksheets in support of the qualifications and experience mentioned in the application and be addressed to the Registrar (Selection Committee Section), Banaras Hindu University, Varanasi 221003, INDIA.

Incomplete application in any respect will not be entertained for consideration. Those who are in service, should apply through proper channel. Money Order or Cheque will not be accepted towards application fee.

Reservations: A reservation of 22-1-2% (15% S.C. and 7½—S.T.) will be made in the category of non-teaching posts at entry level.

The last date for receipt of application in the office of the Registrar (Selection Committee Section) Banaras Hindu University, either by post or by hand will be 15th April, 1988. Applications will be received by hand at the counter only upto 2.30 p.m. on each working day till the last date. No application shall be entertained after the last date from external, in service employees and the candidates residing abroad.

Note : 1. Number of vacancies are tentative and can vary according to needs.

2. Those who have already applied timely for the posts in response to Advt. No. 8 1984-85 and 6/1985-86, need not apply again. However, they may send 10 copies of their latest Bio-data for consideration.

(b) Art
Paintings, Manuscripts, Textiles and Decorative Art.
GRADE : Rs. 1100-1600 (likely to be revised).

2. DEPUTY KEEPERS (Two)

- (a) Display
- (b) Paintings

GRADE : Rs. 700-1600 (likely to be revised).

1. KEEPERs (Two)

- (a) Archaeology
- Sculptures, Terra-cotta, Numismatics & Epigraphy.

3. ASSISTANT CHEMIST (One)

GRADE : Rs. 700-1300 (likely to be revised)

CENTRAL INSTITUTE OF ENGLISH AND FOREIGN LANGUAGES

HYDERABAD - 500 007

Advertisement No. III/88

Applications on prescribed form are invited for the following posts in the Institute service so as to reach the undersigned on or before 25.3.1988

Sl. No.	Name of the Post with Scale of Pay	Department	No. of Posts
1.	Professor Senior Fellow (Rs. 4500-7300)	Materials Production	One
2.	-do-	Evaluation	One
3.	-do-	Correspondence Courses	One
4.	-do-	Regional Centre	One
5.	-do-	Shillong Lucknow	
6.	-do-	French	One
7.	Reader Fellow (Rs. 3700-5700)	Spanish	One
8.	-do-	Methods	One
9.	-do-	Correspondence Courses	One
10.	Lecturer Associate Fellow (Rs. 2200-4000)	Spanish	One
11.	-do-	Methods	One
12.	-do-	English Literature	One
13.	Deputy Librarian (Rs. 1200-1900) (pre-revised)	Regional Centre	One
14.	Research Officer (Rs. 1200-1900) (pre-revised)	Lucknow	One
15.	Asstl. Engineer (Rs. 700-1600) (pre-revised)	Library	One
		EMRC	One
		EMRC	One

Prescribed application forms and further details regarding qualifications etc., can be had from the Registrar, Central Institute of English and Foreign Languages, Hyderabad-7, by sending a postal order in favour of Registrar, CIELF payable at Hyderabad-7 for Rs. 2/- (Rs. 50 for SC/ST candidates) with a self addressed envelope (10 x 20 cm.) duly stamped (Re. 1.80 Rs.) indicating the post which the applicant desires to apply for.

K. Jayashankar
REGISTRAR